

EMBER, 1940

# Soap

## LASTING ODOR APPEAL



Givaudan perfumes can give your products the smart, lasting appeal so important in establishing and maintaining consumer preference for your brand. » »

**GIVAUDAN  
DELAWANNA, INC.**

330 WEST 42nd STREET, NEW YORK, N. Y.

Telephone: LAckawanna 4-6500

and Sanitary Chemicals

*Now!*

## A DOMESTIC SOURCE OF SUPPLY FOR **INDOL**

● This announcement of Indol marks another achievement in Du Pont chemical research. It is in keeping with the Du Pont policy to provide a dependable source of supply for high quality materials at reasonable prices.

☆☆☆ This is the first production of Indol in the United States. Du Pont Indol is fully equivalent in purity, strength and odor to the product previously available. All users of this important perfume ingredient will find that Du Pont Indol fully meets their needs. ☆☆☆ For further information, sample and price, write Du Pont Aromatics Section, 40 Worth Street, New York City.



*Aromatics*

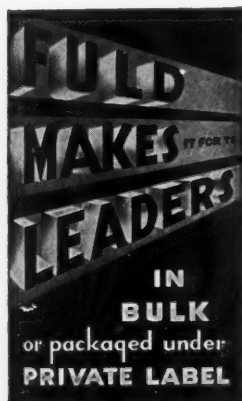
E. I. DU PONT DE NEMOURS & CO. (INC.), ORGANIC CHEMICALS  
DEPARTMENT, FINE CHEMICALS DIVISION, WILMINGTON, DELAWARE





**With Quality  
To Spare—This  
Salesman  
Cuts Loose With**

# **FULD'S SOAPS and CLEANERS**



And he "cleans up"! Experience has taught him that Fuld-made Soaps and Cleaners are "THE shine line"—tested and *preferred* by users everywhere.

This is no deep, dark secret Your *own* salesmen know it, too. They're itching for a chance to break out with a rash of orders. It's in your power—and definitely in your favor—to give them that chance.

*Selling  
..jobbers  
-1- ONLY!*

DEODORANT BLOCKS  
LIQUID DEODORANTS  
LIQUID CLEANERS  
LIQUID SOAPS  
OIL SOAPS  
INSECTICIDES  
DISINFECTANTS  
SELF POLISHING WAXES  
PASTE WAXES

POWDERED WAXES  
FLOOR SEALS  
FLOOR TREATMENTS  
METAL POLISHES  
FURNITURE POLISHES  
PLUMBING SPECIALTIES  
SPECIAL CLEANERS  
SOAP DISPENSERS  
DEODORANT BLOCK HOLDERS

702-710 SOUTH  
WOLFE STREET  
BALTIMORE

SALES OFFICES: SEATTLE  
METROPOLITAN NEW YORK

KANSAS CITY

SAN FRANCISCO

BOSTON

OFFICE: 127 TROUTMAN ST., BROOKLYN, N. Y. TELEPHONE: EVERgreen 8-2498

## **FULD BROS**



# *Salesmen without salary*

Smartly designed cans, handsomely lithographed in attractive color combinations, serve as salesmen without salary for your product. They are good, steady salesmen, too. They give you representation in thousands of stores. They are a constant reminder in the shop and in the home.

Crown offers an extremely helpful art service in the development of containers with better package design—greater sales appeal.

Many firms have already taken advantage of this practical aid to better merchandising.

**CROWN CAN COMPANY, PHILADELPHIA, PA.**

*Division of Crown Cork and Seal Company*

BALTIMORE ST. LOUIS HOUSTON MADISON ORLANDO  
FORT WAYNE NEBRASKA CITY

# CROWN CAN

**I N D E P E N D E N T   A N D   H E L P F U L**

# Soap

Volume XVI  
Number 12

*and Sanitary Chemicals*

Reg. U. S. Pat. Office

DECEMBER  
1940

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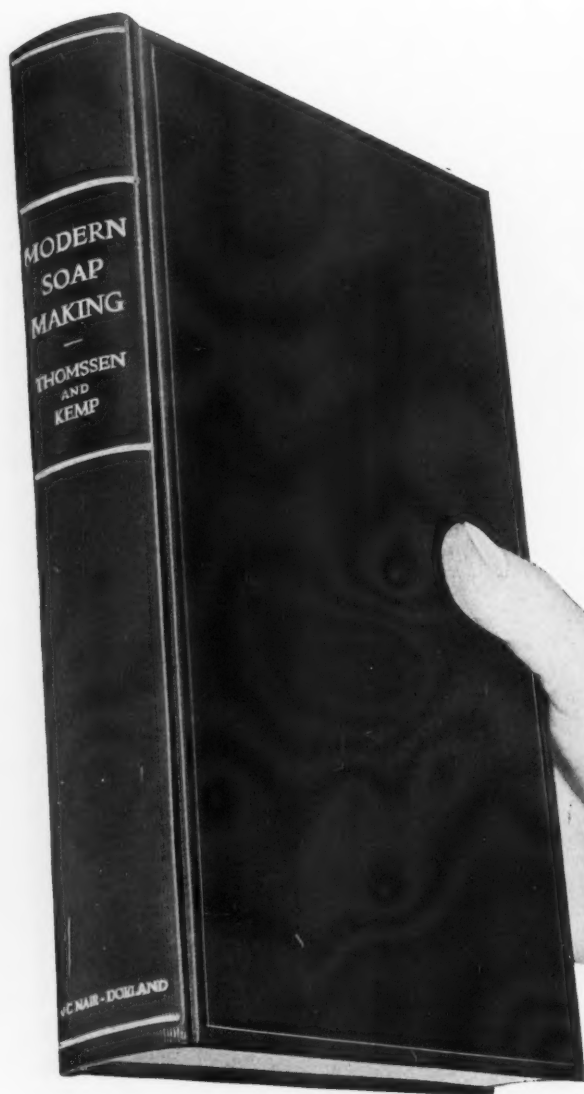
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MAC NAIR-DORLAND COMPANY, INC.  
254 WEST 31st STREET NEW YORK, N. Y.

Subscription rate, \$3.00 per year. Foreign, including Canadian, \$4.00. Copy closing dates—22nd of month preceding month of issue for reading matter and 10th of month preceding month of issue for display advertising. Reentered as second-class matter, Feb. 9, 1938, at Post Office, New York, under act of March 3, 1879. Mail circulation, November, 1940, issue, 3,941 copies. Total distribution, 4,300.

# Every soap manufacturer needs a copy of this book!



The manufacture and testing of all types of soaps are thoroughly covered in this recently published book. The authors, with twenty years' experience in soap manufacture, have produced a practical book which has met with wide approval. MODERN SOAP MAKING, a 540 page volume, costs \$7.50 in the United States and \$8.00 elsewhere, postage prepaid. Order a copy now.

**MAC NAIR-DORLAND CO., *Publishers***

254 WEST 31st STREET

NEW YORK CITY



# STANDARD

No. 4  
of a  
series

## SILICATE



### *Maintains* SUDSING POWER

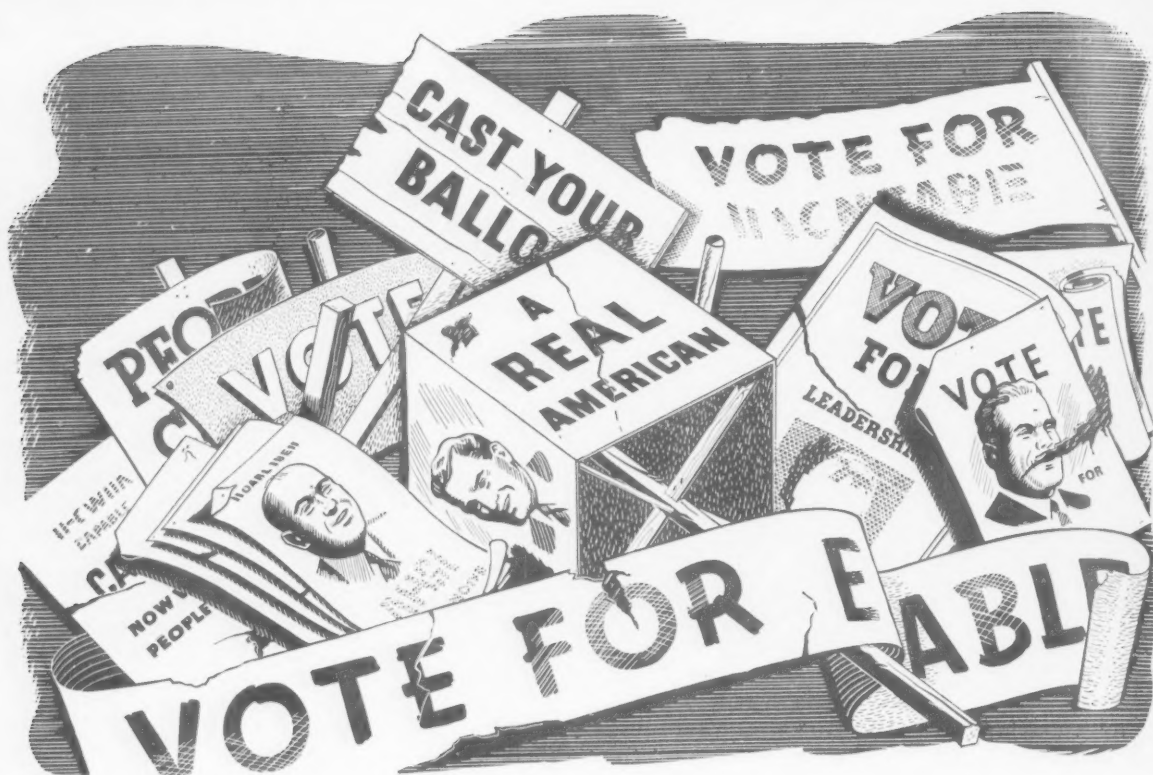
Here's a way to get maximum sudsing power, and improve appearance or quality... use Standard Silicate. You can get pure soap flakes with less fines and better bulk as well as improved flaking and texture properties if you use Standard Silicate in soap-making! Our technical staff will gladly help you.

S-6

**DIAMOND ALKALI COMPANY • Standard Silicate Division**

Plants at CINCINNATI • JERSEY CITY  
LOCKPORT, N.Y. • MARSEILLES, ILL.

**General Offices • PITTSBURGH, PA.**



## AS THE NATION TURNS TO THE TASKS OF '41

Uncolored now by the confusions of a nation's march to the polls, are the realities of our tasks for 1941. Whether your part in these undertakings is large or small, it is more urgent than ever to assure adequate supplies of the raw materials you'll need.

If your processes involve the use of Caustic Soda, Soda Ash, Liquid Chlorine, Sodium Bicarbonate, or related products, we can help you substantially in planning for next year. Columbia products have always been noted for outstandingly high quality. Our capacity makes us one of the Industry's important producers.

But our substantial facilities can serve you most effectively only through advance planning. For this reason we urge prompt action in arranging for your next year's needs

of Columbia products. Make an appointment now with a Columbia representative to discuss your requirements—and to learn how our policy makes certain that a Columbia contract means you'll get it—and get the best.

### *Columbia Products Include*

**CAUSTIC SODA • SODA ASH**  
**SODIUM BICARBONATE • LIQUID CHLORINE**  
**MODIFIED SODAS • CAUSTIC ASH**  
**CALCIUM CHLORIDE • CALCENE • PHOSFLAKE**



## PITTSBURGH PLATE GLASS COMPANY

### *Columbia Chemical Division*

30 ROCKEFELLER PLAZA, NEW YORK, N. Y.

CHICAGO • BOSTON • ST. LOUIS • PITTSBURGH • CINCINNATI • CLEVELAND • MINNEAPOLIS • PHILADELPHIA

**COLUMBIA PRODUCTS . . .**

**A REAL SAFEGUARD FOR YOUR**

**SOAP PRODUCTION PLANS**

**I**N our record for the improvement of our products—and in safeguards of their quality is special assurance that Columbia Caustic Soda, Soda Ash and other materials can be of a real asset in your soap production plans for 1941.

We have consistently increased the purity of Caustic Soda. And we were the first to make practical the shipment of both 50% and 73% Liquid Caustic through the development of the original tank-car coating that gives full protection against metallic contamination in transit. We have been notably successful as well in making Columbia Soda Ash more conveniently usable in the Soap Industry.

And this important question of quality is but one extra reason—in the light of today's conditions — why you should contract *now* for your 1941 needs of Columbia products.

**PITTSBURGH PLATE GLASS COMPANY**

*Columbia Chemical Division*

30 ROCKEFELLER PLAZA, NEW YORK, N. Y.

CHICAGO • BOSTON • ST. LOUIS • PITTSBURGH • CINCINNATI • CLEVELAND • MINNEAPOLIS • PHILADELPHIA

December, 1940

Say you saw it in SOAP!



*Take a Tip!*

*Change to*

*Always*

STOP WORRYING ABOUT  
**OIL OF LAVENDER!**

**LAVENOLA**

EFFECTIVELY REPLACES OIL OF LAVENDER

- ★ **DEPENDABLE LOW PRICE**
- ★ **UNIFORMLY GOOD QUALITY**
- ★ **READY AVAILABILITY**

**SAMPLE GLADLY SUPPLIED!**



**FELTON**  
CHEMICAL COMPANY, INC.

603 JOHNSON AVE., BROOKLYN, N. Y.

MANUFACTURERS OF AROMATIC CHEMICALS, NATURAL DERIVATIVES, PERFUME OILS, ARTIFICIAL FLOWER AND FLAVOR OILS

Boston, Mass.  
80 Boylston St.

Philadelphia, Pa.  
15 Lombard St.

St. Louis, Mo.  
4910 W. Pine Blvd.

Portland, Ore.  
121 N.W. 5th Ave.

Sandusky, Ohio  
1408 W. Market St.

Chicago, Ill.  
1209 N. Ashland Ave.

New Orleans, La.  
Balter Bldg.

Los Angeles, Cal.  
4727 W. Washington Blvd.

San Francisco, Cal.  
707 Kohl Blvd.

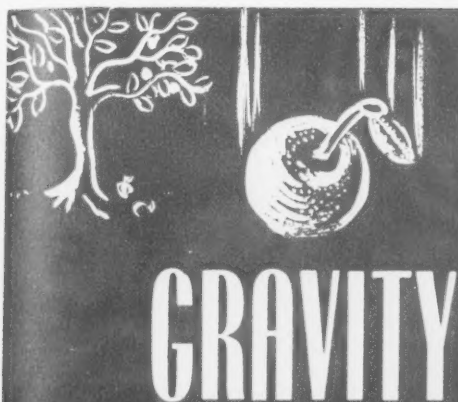
Denver, Col.  
1729 Arapahoe St.

Montreal, Que., Canada  
389 St. Paul St. West

Toronto, Ont., Canada  
218 Front St. West

Salt Lake City, Utah  
15-16 Produce Exchange Bldg.





and a **VACUUM**

**CREATES LONGER  
LIFE IN THE  
TROUBLE PROOF  
DUODEK SOAP  
DISPENSER...**



### **DUODEK SOAPER**

*for long life and low cost. One of a complete line of outstanding machines. Ask about our new plan to increase your dispenser sales.*

The Duodek Liquid Soap Dispenser lasts *many times* longer than dispensers costing much more!

There are no springs to break, washers to wear, or finely machined parts to wear out or clog up.

The vacuum formed in the top of the globe prevents leakage and the plunger works entirely by gravity. There are many Duodeks installed 20 years ago still giving 100% service.

**AMPION CORPORATION**  
4-88 FORTY SEVENTH AVE.  
LONG ISLAND CITY, N. Y.

**BUFFALO FIRE EXTINGUISHING  
LIQUID**

*Kept Factory Fresh*  
**WITH KORK-N-SEAL**

**B**ECAUSE The Buffalo Fire Appliance Corporation wished to protect their Fire Extinguishing Liquid from contamination and evaporation—and add good-will-building appeal to the container by making it *easy* to open and *easy* to re-seal—they chose KORK-N-SEAL to do the job. This convenient, perfect-sealing closure may be used effectively on glass or tin. Write to **Williams Sealing Corporation, Decatur, Illinois**, a division of Crown Cork and Seal Company, for complete information regarding how KORK-N-SEAL can solve your closure problems—effectively and economically.



# METSO RINGS UP

## ...SALES AND PROFITS!

**FROM** the Southland, from the West, North and East, fabricators and compounders of cleaners and cleansers report that Metso Granular Sodium Metasilicate and Metso 99 Sodium Sesquisilicate help them to raise sales curves and keep them up. The answer rests in the symbol  $\$iO_2$  which chemically stands for the silica content.

But the right amount of silica is important and Metso has the scientifically balanced proportion, which insures these extra values in cleaning compounds:

1. Prompt wetting and emulsification
2. Sustained cleaning activity
3. Restrained corrosive action
4. Prevention of re-settling of dirt

Start ringing up more sales and profits for yourself by putting Metso into your various formulae. Metso Granular is shipped in 300 lb. barrels, 350 lb. drums, 100 lb. bags and veneer drums; Metso 99 is available in 350 lb. drums, 100 lb. drums and bags. Write or telegraph for prices and samples.

$\$iO_2$

$\$iO_2$

$\$iO_2$

### METSO BALANCED SILICATES

Metso Granular Metasilicate — Metso 99 Sesquisilicate

*Manufactured Exclusively by*

**PHILADELPHIA QUARTZ CO.**

General Offices and Laboratory: 125 S. Third St., Philadelphia, Pa. Chicago Sales Office: Engineering Bldg. Sold in Canada by National Silicates Ltd., Toronto, Ont. Nine plants. Distributors in over 60 cities.

*Established 1831*

U. S. Pat. 1898707  
U. S. Pat. 1948730  
U. S. Pat. 2145749



THIS IS THE PICTURE  
THAT IS WORTH A  
THOUSAND WORDS



## to BUYERS OF ADVERTISING SPACE

**I**F you buy advertising space today, you have one tremendous advantage over advertisers of twenty-five years ago.

Before 1914, men would have given an eye-tooth for the vital information on circulation which you can have for the asking—in A.B.C. reports. These reports give complete, authoritative facts to guide your buying and to make your advertising more effective.

A.B.C. reports reveal and analyze NET PAID CIRCULATION—the true measure of advertising value. A.B.C. reports answer these three vital questions about circulation: how much is there? where is it? how was it obtained? The answers give verified information on *quantity*, and an important index on *quality* of circulation.

Don't fail to make use of this great advantage. Before you buy space in this or any other publication, get the A.B.C. report. Study it. Determine how the circulation meets your requirements. Then buy with the knowledge that you are buying wisely and effectively.

Our circulation is fully audited in our latest A.B.C. report. We are proud of this report and will be glad to give you a copy



## SOAP and Sanitary Chemicals **A.B.C.** Publication

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**A.B.C.** = Audit Bureau of Circulations = FACTS as a yardstick of advertising value

---



# IONONES

of interest to every soapmaker

## IRINE EXTRA PURE

A rich sweet combination of the alpha and beta isomers, completely free from any terpene character.

## IRINE METHYL

A smooth methyl ionone, predominantly alpha methyl ionone.

These products are made under rigid supervision in our own plant, so we know they are right.

If you are a user of ionones, write for samples, as we know you will find these products of interest.

VAN AMERINGEN-HAEBLER, INC.

315 FOURTH AVENUE  
NEW YORK CITY



# ***HER HEALTH IS IN YOUR HANDS***

**B**efore this child reaches maturity, Tuberculosis may be eradicated from the United States.

But remember, she is growing up in a world where Tuberculosis still causes more fatalities between the ages of 15 and 19 than any other disease!

By buying and using Christmas Seals you will enable your Local Tuberculosis Association to continue a year-round fight that has helped to reduce the death rate from Tuberculosis by 75% during the last 33 years!

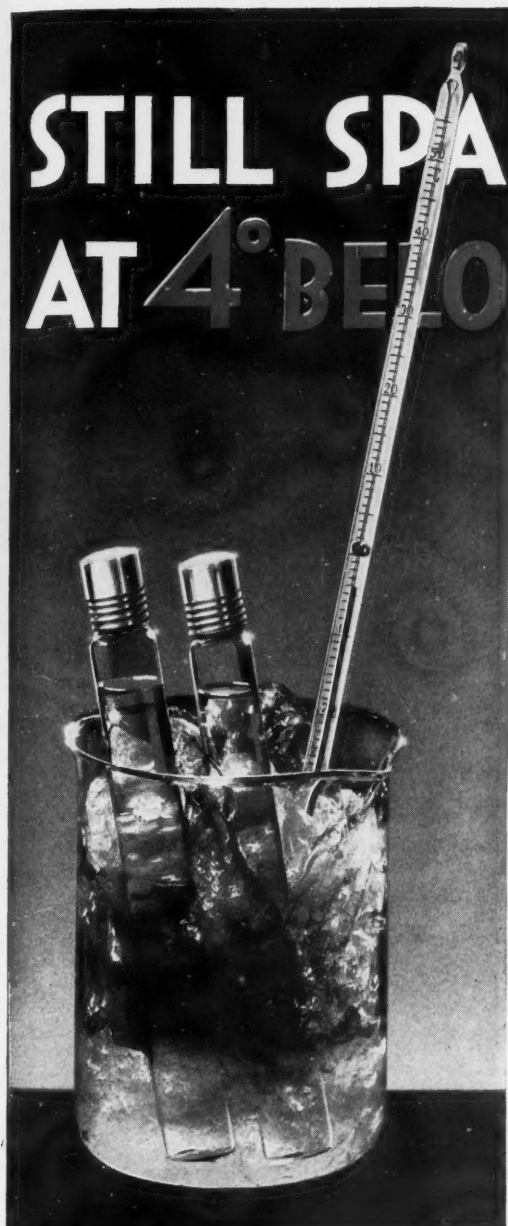
So protect this child—and every child in your community.



**BUY  
CHRISTMAS  
SEALS**

The National, State and Local  
Tuberculosis Associations  
in the United States

# STILL SPARKLING CLEAR AT 4° BELOW ZERO C.!



**T**RY this test on the liquid soap you are now buying -- particularly the concentrated (40%) which you are using as a base to produce liquids of lower soap content.

"BUCKEYE" and "GEM" concentrate liquid soaps remain absolutely clear at temperatures below zero C., lending themselves perfectly for use at all temperatures as a base in producing liquids of lower soap content.

Just dilute them with distilled water --- no need whatever for any filtering.

Send for samples and prices. No obligation.

THE DAVIES-YOUNG SOAP CO.  
Dayton, Ohio

**"BUCKEYE" CONCENTRATE**  
*and*  
**"GEM" CONCENTRATE**  
*Liquid Soaps*



# PROBLEMS



1940 has opened a new decade of problems for all soap makers. Severe competition has always existed in the sale and distribution of your finished goods. But today in addition, hectic competition exists in production, in the mad scramble for quality raw materials.

Ungerer perfuming materials are a tremendous aid in solving your SALES PROBLEM. And happily,

we can be of equal service in the solution of one of your major PRODUCTION PROBLEMS—securing quality raw materials for the perfuming of your soaps.

If you will welcome aid in your perfuming problems may we suggest a very easy formula—

**"CALL IN UNGERER"**

## U N G E R E R & C O .

13-15 WEST 20th ST., NEW YORK, N. Y.





# "Soap & Sanitary Chemicals" ADVERTISERS GET RESULTS!

..... Why?

## No Scatterville Circulation

SOAP AND SANITARY CHEMICALS does not offer a circulation in "Scatterville." We do not attempt to spread out in fields where we have no business to coax in stray advertising. The circulation of SOAP AND SANITARY CHEMICALS is concentrated among manufacturers of soaps and sanitary products and sanitary service organizations.

## No Fake Circulation

SOAP AND SANITARY CHEMICALS is a member of the Audit Bureau of Circulations. Several publications in the field of soaps, drugs, cosmetics, chemicals, chemical specialties, etc., do not see fit to let advertisers *know* what they are buying through membership in this organization. Are the publications in which you advertise A.B.C. members?

## Highly Responsive Circulation

Manufacturers and distributors reading SOAP AND SANITARY CHEMICALS are alert and alive. They are unusually responsive to the right kind of advertising. If your product can demonstrate advantages, advertising in SOAP AND SANITARY CHEMICALS will get you some new customers.

## A Real Reading Circulation

A man closely identified with the industry, and in a larger way intimately associated with national advertising and all types of publications, remarked—"I have never seen a publication of any kind as closely read by the industry it serves as SOAP AND SANITARY CHEMICALS." The editor of one of England's outstanding chemical trade papers wrote—"I find your journal the most informative of all the technical journals we receive here from America. Each issue is cut into a dozen parts and filed for future reference. With most other journals one is fortunate in getting one article per issue."

*... real, honest, responsive circulation plus unusual reader interest—here is the reason for the volume of advertising carried regularly in SOAP AND SANITARY CHEMICALS and the remarkably high advertising renewal percentage.*





# HEADQUARTERS FOR ALKALIES

and related products

Write for a copy of the Solvay Products Book for information  
regarding these High Quality Solvay\* Products:

Soda Ash  
Caustic Soda  
Causticized Ash  
Modified Sodas  
Calcium Chloride  
Liquid Chlorine  
Ammonium Chloride



Caustic Potash  
Potassium Carbonate  
Ortho-dichlorobenzene  
Para-dichlorobenzene  
Para-Baco\*  
Sodium Nitrite

\*Trade Mark Reg. U.S. Pat. Off.

## SOLVAY SALES CORPORATION

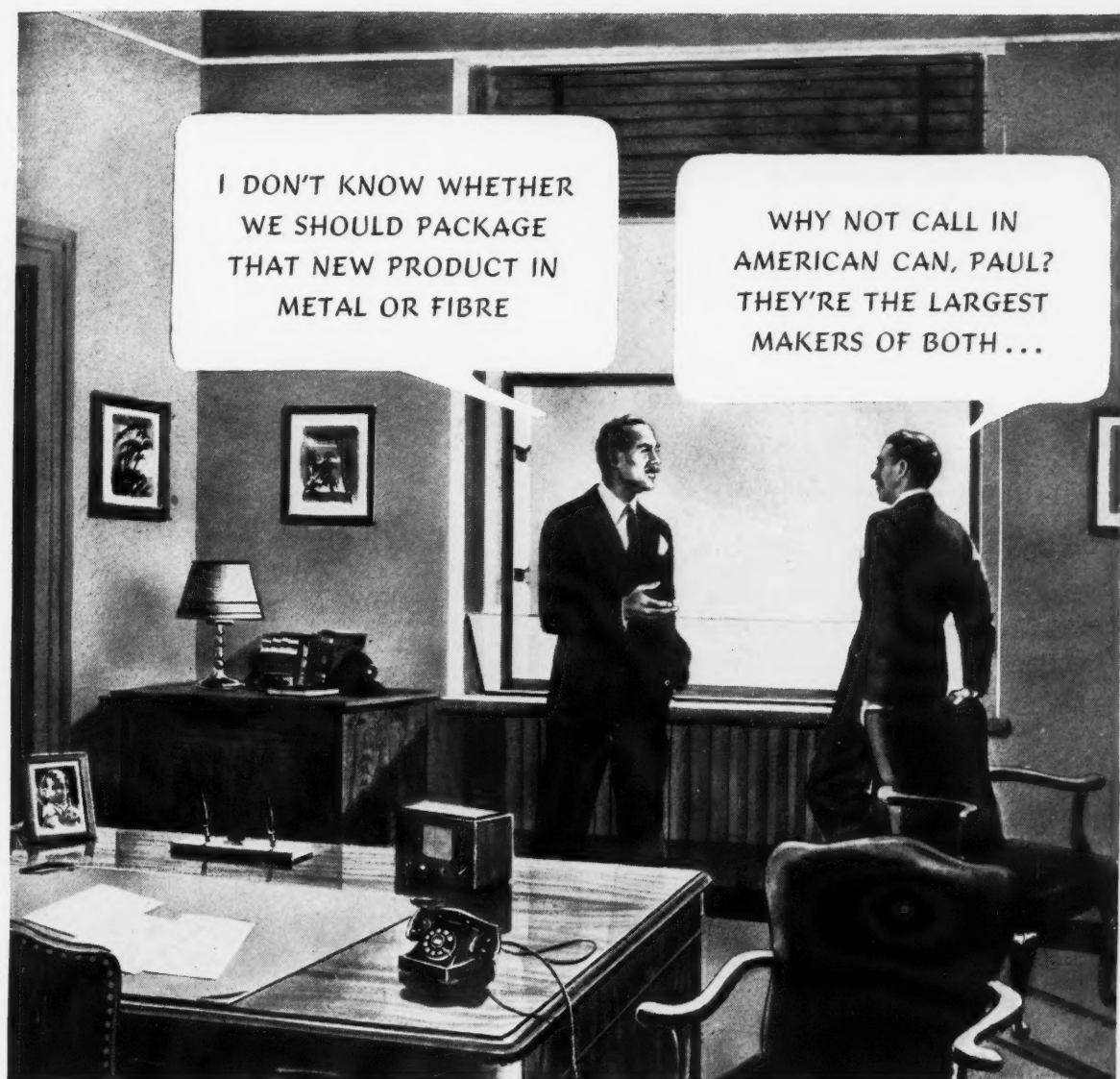
*Alkalies and Chemical Products Manufactured by The Solvay Process Company*

40 RECTOR STREET • NEW YORK, N. Y.

BRANCH SALES OFFICES:

BOSTON • CHARLOTTE • CHICAGO • CINCINNATI • CLEVELAND • DETROIT  
NEW ORLEANS • NEW YORK • PHILADELPHIA • PITTSBURGH • ST. LOUIS • SYRACUSE

PLANTS LOCATED AT: SYRACUSE, N. Y. • DETROIT, MICH. • HOPEWELL, VA. • BATON ROUGE, LA.



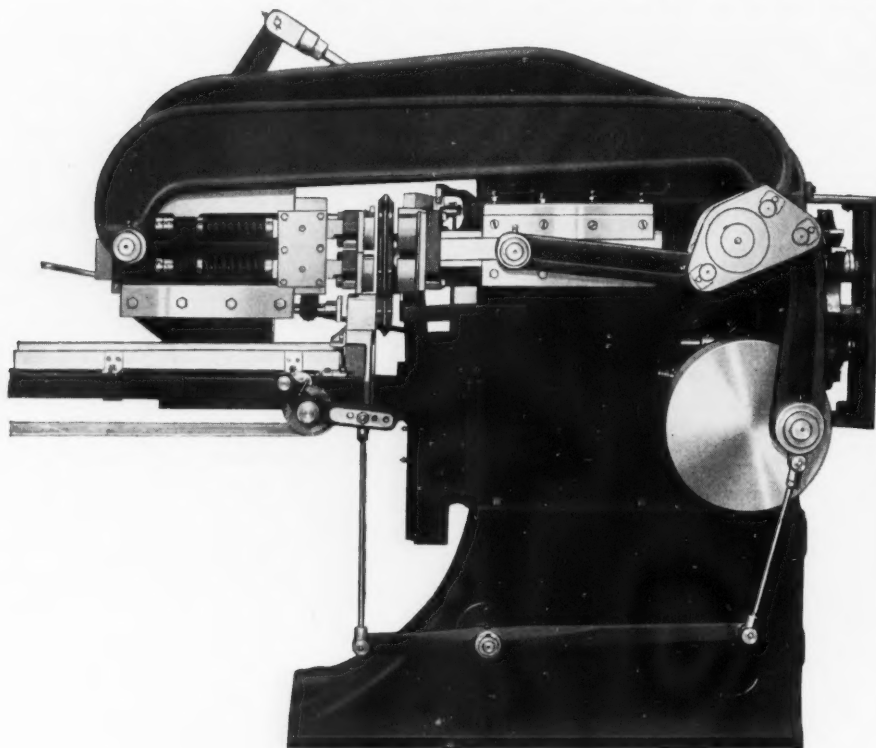
“**T**he way I look at it, the man who has the best perspective is likely to have the soundest judgment. American Can has had the widest experience in both metal and fibre containers. That’s important to us. Then, too, they can be unbiased in their judgment, because they make *both*. Either way we go, we’ll have the benefits of their research and their resources. Let’s study the problem with them.”



AMERICAN CAN COMPANY, 250 PARK AVENUE, NEW YORK, N. Y.  
104 SO. MICHIGAN AVE., CHICAGO • 111 SUTTER ST., SAN FRANCISCO

*... laundry soaps too*

*... sell better if they look better*



TYPE K

## JONES SOAP PRESSES

... insure for your laundry soap that finished appearance which connotes fine quality ... turn out 90 to 140 cakes per minute ... run to capacity by one operator ... toggle operated, hence powerful, perfect pressing without noise or vibration ... results and economies which you cannot obtain with presses of obsolete vintage ... yes, sir,—laundry soaps as well as fine toilet soaps need the sales advantage of good looks ... JONES modern toggle operated PRESSES are the answer.

**R. A. JONES & CO., Inc.**

P. O. Box 485

Cincinnati, Ohio

The Standardized *Constant Motion Cartoner* packages, bottles, jars, tins, collapsible tubes and many other articles.

It feeds, folds and inserts direction sheets and corrugated board liners with the loads.



## *As the Editor sees it..*

**A**MERICAN soap production continues to expand. With the exception of yellow laundry soap which undoubtedly has been on the decline for the past decade, the production of all types of soap products showed a marked increase in 1939, according to the Bureau of the Census. If we may judge by reports in the industry, this higher production rate has continued through 1940, and the current annual output of soap by U. S. factories is well over three-and-a-half billion pounds. This represents an all-time top for American soap production.

Although soap tonnage has increased materially during the past two years, the dollar value of the production shows little variation from 1937 figures, indicating that the unit price for practically all soaps has been considerably lower since the beginning of 1939. This points directly to a conclusion which, we feel, the soap industry should take pride in shouting once again from the housetops,—the American public is today buying better soap for less money than ever before in the history of soap manufacture.



**H**AS American per capita soap consumption increased over the past four or five years? Judging from several indications, the average American is now using some eight or ten per cent more soap than he or she used in 1937. Based on the generally improved standard of living throughout the nation in recent years, we have received the impres-

sion that people keep their homes and their bodies cleaner, and that they also wear more clean clothes. This should have meant the use of more soap. But against this apparent increased soap usage, we have heard reports that large scale water softening, more efficient laundry methods, and inroads of non-soap detergents have tended to cut soap consumption.

Now, we find that soap production in 1939 was over three-and-a-half billion pounds. The chances are that 1940 will equal this figure. And it is probable that practically all of the soap in question is not long withheld from consumption, or at least is finding its way into consuming channels. If such is the case, the per capita soap consumption of the U. S. may now approximate 27 pounds as against 25 pounds which was the popularly accepted figure a few years back.



**F**ROM a book recently published, we learn that "... a cake of good English bath soap will outlast several cakes of the average American soap." On this basis, even though the rather uncertain statistics on world soap consumption show the United States, Netherlands, and Germany as larger per capita soap users than England, the author concludes that the English take more baths and accordingly are a cleaner people than the other three.

Now, we take no issue with the quality of milled soaps made in England, especially with the better brands which show up on the American market. Neither do we question

their "lasting" powers. But we did get a chuckle out of the author's unique argument. In view of the fact that soap manufacture in England is essentially the same as in the United States, this all goes to prove that no matter what the contention, reasons of one kind or another can always be found to support it.



**A**LREADY, we see effects of the expansion impetus given to industry and trade by the rearmament program. And it all reminds us too much of conditions during the last war and during the early boom days of 1928-29. We cannot seem to get those visions of the former lamented "silk shirt era" out of our mind. Industry has been given a shot of cocaine, and more shots are to come. But what happens when all the shots are over? What happened before? We wish that we could forget those previous hangovers, but we just can't.

Only last week, we had two reports from cities adjacent to steel mills that it was becoming impossible to get workers at anything like a sensible wage,—that the mills were taking them away from other industries,—that gas station attendants in one town, for example, had quit just about en masse to work in the mills, and that wages for such attendants as could be obtained were more than double their previous level.

Now, it will not be long before the sale of electric refrigerators, washing machines, automobiles, and a hundred and one luxuries will be booming along a la 1928-29. Installment businesses will flourish as a green bay tree. Silk shirts will again take their places of honor in the store windows,—and the giddy days will be here again. They are on their way just as sure as God made little apples hard and green! If the supply of cocaine is large, we will not have to endure

that pounding hangover headache too soon. We hope for the best,—but we have seen those selfsame signs on the horizon before, and they are not reassuring.



**C**AN you help us locate two or three good salesmen, men with experience in our line and clean records who can go out and put over this new product of ours? Of course, for the time being, the jobs will be strictly of the commission variety, but later on, if the line goes and they make good, possibly some kind of a drawing account may be arranged.

And thus it goes month in and month out, manufacturers and jobbers looking for men, always "good salesmen," to go out and do the missionary work on a new line on strictly a commission basis. These requests come to us by the dozens, and by the same dozens, we reply uniformly that we do not know of any "good salesmen" who could be induced to take jobs of this kind.

To introduce any product to market is expensive. Not the least of these expenses are sales and advertising costs. And manufacturers, or others, who would hire men on a commission basis for this purpose are usually unwilling to shoulder the expense which is justly theirs. They endeavor to cut sales costs by getting suckers to do the missionary work for them, men often completely down on their luck who take the jobs in the hope of brighter things to come. These individuals are paid commissions if they make sales, but receive nothing for the dozens of other calls made in behalf of the manufacturer and his products, even though such calls long after the salesmen have passed on to other jobs, may develop into business.

In the majority of these selling propositions, it is simply not "in the wood" for a man to make a living wage, at least for some time. But, nevertheless, the search for "good salesmen" goes on and on.

# WHITE SOAPS

The problems which they present to the soaper and how these have been solved by modern manufacture

By C. R. Kemp

*J. R. Watkins Co.*

ONLY a few weeks ago, there passed through our hands, correspondence relating to some problems in soap making in a distant land, due to conditions caused by the war. It is with regret we cannot reveal the problem or give names at this time, but it can be said, and in all sincerity, that the account of the troubles encountered and the efforts of those confronted, brought admiration for these people. Their spirit and resourcefulness might well be taken as an example, for the more fortunate.

This incident is mentioned, because it brought the realization of our most fortunate position in the soap industry, and of our high standard of living. The people of our nation and our neighbors enjoy soap made in this country of a quality that cannot be matched, and most of it is white soap. Turn on your radio and listen to the "serials," soap operas, comedy, baseball games and quiz programs, you will find that a white soap in one form or other has brought you this entertainment. It is true that the makers of these white soaps began making them in greater and greater quantities when the demand for them increased. White color is the symbol of a purer soap, and it is a purer soap as far as the fats were concerned, even if one stops to consider some present day *atrocities* that have been "stretched" to the breaking point and possess all of the

detergency of a piece of Rhode Island granite. The fact remains that even in a very few cases where quality has been sacrificed, the maker did not resort to darker colors.

Now examine the progress which has been made while the manufacturer was producing white soap in increasing quantity. The maker did not just plunge headlong into the manufacture of white soaps. It is true that he had been making some white soap right along, and for this he provided himself with the best materials available, which incidently cost him more than his other production. Now with the increase in demand for greater quantities of white soap, he found that competition for the better materials had further increased the cost. Right at this point began the struggle with problems of how to use cheaper materials but still produce an acceptable product. The results of solving these problems comprise the story of white soaps as we know it today.

Go back to the days when the local butcher trimmed the scraps of fat and each locality produced its own fat,—back to the days when the best caustic soda obtainable, contained enough iron to produce variegated soaps without any other material addition and was indirectly responsible for the popular Windsor soaps, products of undeveloped materials and soap makers mistakes, which existed only by the lack of a not-too-

critical taste of the consumer and the saving grace of a perfume capable of disguising the shortcomings of the product,—back to the days of heat fired cast iron kettles and mighty cast iron frames. Remember also such things as "jiggers," tray drying for chips, hand slabbing, cutting and hand stamping or foot pressing. All of these things and more were housed usually in ill-kept premises, which could be located easily if not pleasantly by one's olfactory sense.

In contrast, view today's picture of uniform pure raw materials, light-weight, steam-heated kettles of gleaming non-corroding metals, or of plants entirely without kettles which employ a continuous process. Modern methods of bleaching and refining, hydrogenation, crushing and recovery by the use of volatile solvents. Mention also the high capacity mechanical drying machines, large plodders and mills and high speed automatic presses. Research which has standardized raw materials, perfumes, and printing on cellophane, all have contributed to the picture. Finally the large, clean buildings surrounded by lawns and flowers. That is the story of white soaps and progress.

Now look and see what has been done to improve the equipment. We have come to the use of non-corroding metals in storage tanks, kettles and machinery, all because the presence of iron or its salts and oxides have no place in white soaps.



Today we have large kettles constructed of metals usually composed of a mixture of iron and nickel, with lesser amounts of non-ferrous metals that may or may not be required. It may be that old iron kettles have only been lined with corrosion resistant metal to just below the corrosion line, thus the manufacturer has retained the remaining life of an iron kettle at lesser cost and has at the same time availed himself of the protection of non-corroding metals. We have kettles entirely covered on top with suitable vents to carry off the steam, thus the kettle house or room will always have clean dry air. These kettles are provided with electric lighted interior and clear vision windows. They are also provided with a system of warning lights indicating when the level of the soap is safe or above the proper level. It will be found that pipes for materials and steam now reach the kettles from below rather than being suspended from above and descending to the kettles. By approaching the kettles from below the general appearance of the kettle room is a picture of clear and unobstructed view wherein there are no pipes to rust and catch dirt that might fall into the soap.

Storage tanks for caustic soda and brine, made of or lined with

corrosion resistant metal are used to prevent iron reaching the soap. In the milling department we find the cylinder of the plodders lined with nickel alloys or cadmium plate. Soap dies for the automatic presses are made from nickel alloys instead of brass. Storage tanks for fatty acids are also made of or lined with non-corrosive metal.

Turning to the subject of raw materials we find that great improvement has been made in the production of alkalies. Today the soap manufacturer, can, for instance buy his caustic soda in liquid form. Clean liquid caustic soda, low in foreign metallic content, in specially lined tank cars can be delivered at a lower primary cost, lower packaging and handling cost also. Add to this the convenience in handling mechanically, and with greater safety. Some makers of caustic soda are offering a lye containing a stabilizer, the purpose of the stabilizer being to prevent darkening of the soap due to rancidity and similar troubles. This type of product contains sodium thiosulfate\* in a very small percentage, usually less than one-half of one per cent. While this product represents an improvement, it is the thought of the writer that money could be saved by

adding the stabilizer to the soap after it has been made, as there must be some question as to loss of the stabilizer when making full-bodied soaps, the loss occurring when spent lyes are withdrawn from the kettles. If thiosulfate of soda is added to the soap at some step of production after boiling, then it will all remain in the soap. It might be well to state at this point that the presence of sodium thiosulfate also can make trouble for the manufacturer of certain "antiseptic" or "germicidal" soaps that contain metallic salts capable of reduction, for example mercuric compounds in the presence of this stabilizer cause the soap to turn black.

THE proper selection of fats is by far the most important factor in the manufacture of white soaps. Next, is the manner in which they are stored, treated, bleached and saponified. There is today sufficient high quality material available that with only routine precautions, will produce good white soaps. There are also the "borderline" offerings with their lure of extra profits. The manufacturer who cannot resist an occasional flyer in this "borderline" material must be prepared to use good judgment and skill, and apply at least some of a number of methods

\* U. S. Patent No. 2,202,103.







of improving these materials and also make provisions that will insure him that the results will be permanent. The purchaser of the better grades of fats will not have to concern himself with all of the subjects that will be mentioned herein, but they are related to the subject of white soaps to some degree.

After making a selection and purchase of his fats, the manufacturer may use this material quickly or store it for some time. Of course if the material is used quickly, then there will naturally be less chance of possible trouble. If the fats are to be stored for a length of time, then there are other considerations. He must consider the possible effect that storage will have on the fats. Storage tanks regardless of what material they may be made of, must have an occasional period wherein they are empty, well cleaned and ventilated, for the perfectly obvious reason that dirt and bacteria can have no part in the production of white soaps, except to assist in creating trouble. When the fats

are stored in tanks, it is advisable to draw off water of condensation as often as it may be found. Long periods of storage in the presence of water will be found to favor rancidity. It should be remembered also that once fats are in the storage tanks, they should be allowed to cool as soon as possible, and it would be better to store fats in a series of smaller tanks than in one large tank. The reason for this is to prevent discoloration due to a number of heating and cooling periods that would be required if only small lots are withdrawn from large tanks. Each time a fat has been heated, it becomes a little darker in color and if continued reheating occurs it will be found that the darkening is practically permanent. Even caustic treatment for removal of free fatty acids and a bleach will not improve the color very much.

If the manufacturer of a white soap has purchased the better grades of fats available today and does not attempt long periods of storage, he

may be reasonably sure of having no discoloration of the final product, due to rancidity of the fats. The manufacturer of a white soap containing considerable silicate of soda will find that he will not be much concerned about rancidity as the silicate is an excellent preservative.

There are various types of white soaps ranging all the way from the highest type, daintily perfumed milled soap to granules or laundry bar. The amount of preparation necessary before saponification will of course be determined by the product in which the fat will be used. Some fats will require alkali refining and a bleach, others simply a bleach and some may be used without any preparation. For high class toilet soap, the fat should be alkali refined and bleached. The process of alkali refining, generally speaking, is simply the addition of a caustic soda solution in a sufficient quantity to neutralize the free fatty acids present, plus a small quantity in excess necessary to "break" the mixture. First a

test is made to determine the percentage of free fatty acids present, and is usually calculated as oleic acid. From this determination the amount of caustic soda necessary to neutralize, is calculated.

Some attention must be paid to the temperature at the time of operation and also the speed of the agitator enters into consideration. The strength of the caustic soda solution may vary from 10 to 30 degrees Baume at 15° C. In a general way, the weaker caustic solutions are used on low acid percentage fats and oils and as the free fatty acid percentage rises the solution of caustic soda can become stronger. For best results the speed of the agitator should be variable, a useful range would be from 50 to 250 R.P.M. Temperatures will vary according to the class of fat or oil undergoing treatment. The starting temperatures for tallow and coconut oil will be about 60° C and 30° C, respectively. At the beginning the agitator is operating at high speed. The caustic soda solution is sprayed into the fat or oil as quickly as possible. After a period of time, say about 15 minutes, the temperature should be raised about 15 or 20 degrees C and the agitation slowed down to about 60 to 70 R.P.M. The changes in temperature and slowing down of the agitator should be so that the agitator will be at the minimum speed as the temperature approaches the maximum. When the maximum temperature has been reached, agitation is stopped, and the mixture is allowed to settle.

It will be noticed that when the caustic soda solution is first added that the mixture clouds and appears to be an emulsion, but as agitation proceeds and the temperature rises the "break" appears. This "break" represents the breaking up of the emulsion to form small particles which settle to the bottom of the tank when the agitator is shut off. These particles which settle to the bottom along with some of the fat or oil and moisture are the "foots." After the contents of the tank have been allowed to settle thoroughly, the clear fat or oil on top is drawn off carefully, taking care not to allow any of the foots

to be drawn off. The foots remaining in the tank are used in the manufacture of a lower grade of soap. The clear oil or fat that has been drawn off is ready for further treatment. Examination of the fat or oil at this point will reveal that the color has been improved some and the odor, especially if it were originally bad, has been very much improved.

Bleaching of fats and oils represents the procedure most necessary in the production of white soaps, in that it elevates lower colors to an acceptable standard for white soaps and makes acceptable material even better. In general, bleaching does not represent modern practice, except for the continual improvement of procedure and bleaching materials. Present-day practice employs one or more of the following general classes, that is, by the use of fullers earth, carbons or chemical process. Earths and carbons are used for the most part.

The term fullers earth may be applied to any of the natural occurring clay-like mineral substances that are capable of removing coloring matter and absorbing impurities from fats and oils. Most earths represent simply the drying and grinding of the natural occurring earth. Other earths are "activated" by some process, usually a wash with a mineral acid, which removes much of the inactive portion of the earth. These "activated" or "super" earths cost more than the natural earth, but are usually 3 or 4 times as effective. The manufacturer is justified in paying a premium for these activated earths because a small amount of them may be used for bleaching any given amount of fat or oil than would be required of the non-activated earths, thus there will be less filter cake formed and consequently less loss of fat in the cake. Carbons available to the soap manufacturer are more costly than the earths, but here again the producer of carbons has the argument of less cake and consequently less fat loss. In many instances, earth and carbons are used together, and they properly can be used, as each has its work to do.

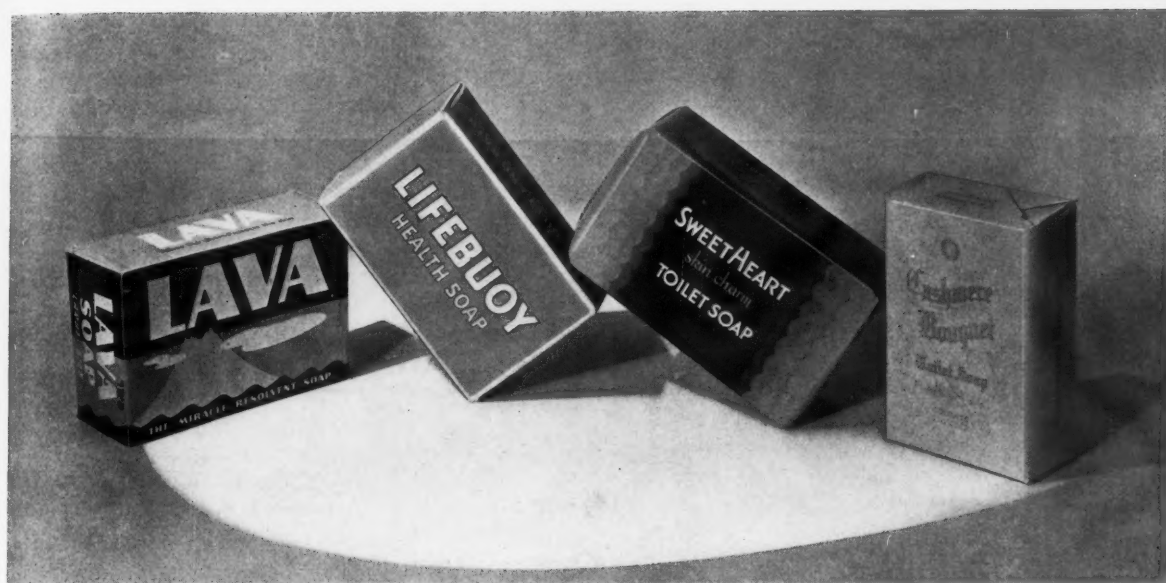
Chemical bleaches for fats and oils for the most part will find more

justification for use on the lower grades of fats and oils. To mention a few, we have the bichromate, hypochlorite and peroxide bleaches. For the better grades of fats and oils, the trend has been away from chemical bleaches for one or more reasons due to high cost of chemicals, difficulty in removing the last traces of the chemical or the tendency of the bleached material to revert to a darker color.

The general procedure for bleaching fats and oils using earths or carbons or combinations of them is to dry the oils first, then add the bleaching material while agitating and finally filter out the earth or carbon. The details of the procedure have been given many times in previous articles.

UP TO this point the manufacturer has spent considerable time and care in order to prepare his raw materials that enter the kettles for saponification. So, now let us see what are some of the considerations for the stage of the manufacture. We have previously noted that it is good practice to have kettles of corrosion-resistant metal. There are three or four possible sources of trouble during saponification. First there is the caustic soda, which we will assume has been properly stored, and, if so, there will probably not be trouble from this source, except that it might be good practice to install a "Y" strainer on the main line leading from the liquid caustic storage tank to the kettles. This will pick up and retain small particles that may accumulate in the pipe lines. Drain the lines occasionally and remove the plug and strainer, then clean out the strainer and put it back in place. If the very best of white soap is to be made, only fresh lyes should be used, and a sufficient number of salt washes should be given to draw off a high percentage of the glycerine available. If ordinary white soap is to be made, then some half-spent lyes can be used, but care should be taken to see that the quantity is not too great and that

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# TOILET SOAPS

## .... *Cartoned or Wrapped?*

THE number of brands of toilet and cake soaps which are packed in individual cartons is relatively small in comparison to the large number sold in paper wrappers. Yet many of the brands packed in cartons are always named among the most popular brands whenever a market survey is made. This being the case, is it not strange that more toilet soaps are not packaged in cartons? Since the few brands which are cartoned are so popular, why do not more manufacturers employ cartons? What are the advantages of individual cartons for toilet or specialty soaps as compared to simple wrapping or other methods of packaging? Is the additional cost of cartoning justified? Why are a certain class of soaps which are "medicated" or have certain other special qualities packaged in cartons? What factors influenced the manufacturers' original choice of cartons?

These were some of the questions asked by representatives of *Soap & Sanitary Chemicals* in a series of

interviews with soap makers, distributors, managers of retail outlets, sales people and even the buying public. While opinions as to the advantages of individual cartons seemed to vary widely through the trade, a number of interesting facts were brought to light. Practically everyone who had given any amount of thought to the subject subscribed to the principle that products are made or broken today by their containers. This is considered especially true in the toilet soap field. Other things being approximately equal, such as quality of the soap, price, reputation, availability and force of advertising, the package is obviously the final factor which influences a customer in her choice of a toilet soap. As this tenet has been discussed at length in many previous articles, it is not our intention to discuss packaging generally but only insofar as cartons are concerned. To carton or not to carton: that is the question.

The soap packages illustrated on these pages are fairly representa-

tive of the cake soaps which are today packed in individual cartons. It will be noted that seven of them are toilet soaps which sell at a retail price of from five to ten cents, five of them are medicated or germicidal soaps in a retail price range from 14 to 25 cents a cake, two are tar soaps, while the remaining three are soaps which do not fall into any of the above classes. One is a baby soap, another is a perfumed high-priced toilet soap, and the third is a special product designed to fit into the bottom of a shaving mug. Of the seven straight toilet soaps, all except two sell at about ten cents, the exceptions being "Lifebuoy" and "Sweetheart," which sell for less than ten cents. From these representative samples, it would seem that the majority of soaps packaged in cartons are not "just soap," but have some special quality to recommend them. They are often specialty products and for that reason command a higher price than the usual run of toilet soaps which are sold on a competitive price basis.





One of the most frequently cited reasons for packaging toilet soap in an individual carton is that of sales appeal. The flat surfaces of the package present a more attractive appearance than the ordinary paper wrappers. As arguments, the exponents of this style of packaging point to the paper wrappers often out of register, or put on crooked, and which slip off or become dislodged more easily than cartons. How important a point this is may be debatable but it probably is valid to a certain degree. The buying public,—that great mass of housewives whom we picture as hurrying in droves to the market place, shopping basket over one arm,—is an unpredictable entity at best, but is also sensitive to what have been called negative selling factors in a package. These negative selling factors may be a result of sloppy packaging as well as errors in the design itself.

Another argument in favor of cartons is based on the fact that the flat surfaces give the package designer a larger area upon which to work and produce a more striking effect when they are used in mass displays such as stacking in pyramids on floors or counters of grocery stores. The paper wrapped soap cannot be merchandised in this way and is commonly put on display in grocery stores by throwing the cakes into a basket on the counter. Of the three major methods of packaging toilet soaps, cartoning is the most effective from the point of view of mass displays. The other ways of packaging, wrapping in paper and packing in groups of several cakes in a set-up box, are perhaps superior for other reasons but cannot be used to attain sales appeal through the use of mass displays.

Protection of the product from damage through handling is considered a highly important point by those who endorse cartoning. The appearance of a toilet soap is impaired, of course, when rough handling results in dents, chips or cracks in the soap. Customer acceptance is presumably decreased when a product is received in imperfect condition even though the utility of the product is in no manner diminished. Buyers seem to be funny that way. They like to

think they are getting a product which is free from defects of any sort,—particularly a product designed for personal use. When a soap is packaged in a paper wrapper, each cake may be perfect and free from defect as it leaves the wrapping machine. But the same cake may look entirely different in the hands of the customer. The paper wrapper affords little protection. A carton, however, being rigid and built like a box, does a much better job of protecting the contents from damage during shipping and handling. Due to their shape, the cartons can be packed more tightly into cases for shipping and this fact also prevents the cakes from defacing each other because of loose packing.

THE officials of Colgate-Palmolive-Peet Co., consider the protection of their "Cashmere Bouquet" of such importance from the sales appeal angle that they recently installed in the Jersey City plant special cartoning machinery which is designed to prevent any injury to the soap cakes during the cartoning process. The carton produced by this new machine is different from the usual type of cardboard carton, in that it is completely formed in the machine from a flat "blank." In most cartoning machines the sides of the carton are already glued together before they are fed into the machine. The machine used in the Colgate plant makes the glued carton, lines it with waxed paper, fills it on a rotary filler in which the carton is pushed over the cake of soap instead of the soap being pushed into the carton, closes the open end of the carton and seals it. The reversal of the usual procedure of pushing the soap into the carton is just one of the features of the machine to reduce damage to the product. After the cartons are filled and sealed, they are carried to the wrapping machine where the outer wrapper of paper is put on over the carton.

From this cartoning machine the packaged cakes are produced at the rate of about 120 pieces per minute,—almost twice as fast as any machine for the purpose ever before used by the company. Its speed was one



of the features which recommended it. For comparison, wrapping machines usually operate at less than 70 pieces per minute. Thus, where high-speed production would represent a saving to a company now using wrapping machinery, it is possible that it might be attained in this manner.

The difficulty of wrapping a round or oval object with paper is readily appreciated by anyone who has ever tried it. Cartoning is the reasonable method of packaging unusually shaped cakes of soap and several of the products pictured here are cartoned for that reason. "Sweetheart" is an example of a roughly oval-shaped soap packed in a carton. Like "Cashmere Bouquet," it has an outer paper wrapper over the cardboard carton,—these two being among the very few toilet soaps which are packaged with an outer wrapper over the carton. The wrapper, incidentally, is also supposed to prevent the soap from drying and from losing its perfume. It also gives the package a more finished appearance than the carton alone.

In cartoning an oval piece of soap, the package designer should carefully consider the dimensions of the soap in reference to those of the carton. Any obvious discrepancy between the size of the carton and the size of the cake of soap, whether intentional or otherwise, is liable to produce customer dissatisfaction, as well as trouble with federal and state regulatory bodies. A striking example of a carton which is deceptively large in relation to its contents was turned up in our limited survey. It is undoubtedly an excellent soap. However, the carton gives one the impression of having been made for a cake of soap about twice as large as the one it contains. Judging from the comments of people who have bought this particular soap, as reported by several drug store clerks, this soap's sales are headed for a drop unless something is done to counteract the bad effect of the present package. If the depth of the carton were reduced by about a quarter of an inch, the deceptive effect would instantly be eliminated and the customer would no longer feel "gypped."

Still another reason for packaging toilet soaps in cartons was given by the companies who like to include a sheet of instructions or testimonials along with each bar of soap. These printed "blurb" sheets can obviously be packed more easily into a carton than any other way. To summarize, then, cartons are used for toilet soaps for these reasons: to increase sales appeal, to protect the soap from being damaged, as the most practical method of packaging round or oval shapes, or as a receptacle for advertising matter.

Some manufacturers, however, were unable to give any logical reason for packaging their product in cartons. Gentlemen of the old school, several of them answered something like this when interviewed: "Why do we use cartons? Well, we've been putting 'Exwyzee' soap in cartons for the past forty years. Haven't changed it in all that time. We've always done it that way and that's why we do it today." This clinging to old methods of doing things just because they are old seems to be a common tendency in the packaging of cake soaps. It is just as unreasonable a principle as the opposite extreme of discarding every old idea simply because it is old. However, habit and tradition seem to be the most powerful reasons that certain companies have for continuing their present-day practices.

"SPECIALTY" soaps, that other group of soaps in which cartoning is prevalent, are cartoned to accomplish somewhat different ends. Most of the soaps in this classification, because of their specialized appeal, have a fairly slow turn-over, are produced on a much smaller scale than ordinary toilet soaps, and sell at from two to five times the price of toilet soaps. Cartoning is especially adapted to those soaps of the type known as "medicated" or "germicide" for they require the added protection of the cardboard carton to keep the bar looking fresh. Some of them, moreover, contain substances which are destructive to paper or cellophane and would

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Of the oils commonly used in soap manufacture, coconut oil and the lauric acid which it contains give soaps that are more irritating to human skin than many other soap making oils, investigations show.

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# IRRITATION OF SOAPS

## on Human Skin

The order in which soaps of various pure fatty acids and individual oils and fats are found to be irritating

By Dr. Leroy D. Edwards\*

THE irritant action of soaps on the human skin first attracted the interest of the writer as a result of the change in the official definition of *Sapo Durus* in the eleventh revision of the United States Pharmacopoeia. The new definition of official soap no longer requires the use of olive oil. Any oil, or mixture of oils, may be used so long as the finished product meets the required chemical and physical tests as specified in the U.S.P. These tests are supposed to be the tests an olive oil soap will meet, but on the other hand, the revision committee<sup>1</sup> admitted that non-olive oil soaps can be prepared from mixtures of oils which will meet these same tests. This prompted the question would soaps so made differ in their actions on human skin,—would they act the same on skin as a true olive oil soap? The following is a resume of the work carried out by our laboratory in an attempt to answer the above question.

In 1938,<sup>2</sup> the actions of sodium and potassium soaps made from C. P. fatty acids on human red blood cells and earthworm segments were investigated. From this work it was concluded:

(a) That when the sodium soaps of the saturated fatty acids are

compared as to their greatest lytic values, at a given temperature, they may be arranged in the following order: sodium laurate, sodium myristate, sodium palmitate, sodium stearate (this order does not hold at a given Ph).

(b) The hemolytic values of potassium and sodium soaps are very similar.

(c) When evaluated as to their toxicity to earthworm segments, the saturated soaps fell in the same order as in "(a)."

The next step was to determine the irritant actions of these soaps of chemically pure fatty acids directly on human skins<sup>3</sup>. Since it was desired to keep a definite volume of a molar solution (0.0225) of each soap in contact with a definite area of skin surface for a given length of time, the old patch test was discarded. The device used consisted of a rubber diaphragm held in place by a collar equipped with adjustable elastic bands. The solution was removed after it had been in contact with the skin for four hours, the area washed with warm tap water, dried, and examined at various intervals for signs of irritation. If there were irritation five minutes after the conclusion of the test and this irritation remained for more than two hours (irritation was determined by the presence of redness, itching, pain or any other sign of injury to the epithelium) the

result was recorded as "plus," "plus-minus" if irritation was present but disappeared in two hours, and "minus" if no irritation was noted. No detectable differences were observable between the sensitivity of the inner surface of the leg and that of the arm. The following results were obtained on 24 males and 14 females,—per cent positive reactions arranged in order of decreasing toxicity:

### Sodium Soaps

*Females* — lauric, myristic, linoleic, n-capric, oleic, ricinoleic, palmitic, n-caprylic (no reaction-stearic). *Males* — lauric, myristic, oleic, n-capric, linoleic, ricinoleic, oleic (no reaction-n-caprylic, palmitic, and stearic). *Combined male and female*—lauric, myristic, linoleic, n-capric, oleic, ricinoleic, palmitic, n-caprylic (no reaction-stearic).

### Potassium Soaps

*Females* — lauric, myristic, linoleic, n-capric, n-caprylic, oleic, palmitic, stearic, ricinoleic. *Males*—lauric, myristic, linoleic, oleic, n-caprylic, palmitic, n-capric, ricinoleic (no reaction-stearic). *Combined male and female*—lauric, myristic, linoleic, n-capric, oleic, n-caprylic, palmitic, stearic, ricinoleic.

When both the potassium and sodium soaps, as per the combined male and female results, are arranged according to decreasing toxicity, the order is as follows: K laurate, Na

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laurate, K myristate, Na myristate, Na linoleate, K linoleate, Na *n*-caprate, Na oelate, Na ricinoleate, K *n*-caprate, K oleate, K *n*-caprylate, K palmitate, K stearate, Na palmitate, K ricinoleate, Na *n*-caprylate (no reaction Na stearate).

From these results it can be stated that (1) as a rule, potassium soaps are more irritant than sodium soaps on both male and female, (2) lauric and myristic acids produce, by far, the most irritant soaps, and (3) soaps of acids possessing double bonds and substituent groups vary markedly in irritant action from the saturated acid soaps of the same carbon length.

With this knowledge of the irritant action on human skin of soaps made from individual fatty acids, our attention was then given to the irritant action of soaps made from refined oils<sup>4</sup>. The same procedure, as explained, was used in this work. The per cent positive results noted on 22 males and 5 females give the following tabulation of refined oil soaps. The order is from high to low.

### Sodium Soaps

**Females:** — castor, coconut, rape, cottonseed, palm kernel, linseed, raisin, cocoa butter, corn, palm, peanut, poppyseed sesame, soya. (No reaction—almond, avocado, beef suet, cod liver and olive.)

**Males:**—castor, coconut, palm kernel, olive, palm, linseed, almond, avocado, cottonseed, peanut, raisin seed, rape, sesame, beef suet, cocoa butter, soya. (No reaction—cod liver, corn and poppyseed.)

**Combined males and females:** —castor, coconut, palm kernel, rape, cottonseed, linseed, palm, olive, raisin seed, peanut, sesame, almond, avocado, cocoa butter, soya, beef suet, corn, poppyseed. (No reaction—cod liver.)

### Potassium Soaps

**Females:**—castor, cocoa butter, coconut, cod liver, cottonseed, palm kernel, linseed, palm, peanut, almond, avocado, beef suet, olive, poppyseed, raisin seed, rape, sesame, soya. (No reaction—corn.)

**Males:** — castor, cottonseed, coconut, palm kernel, raisin seed, avocado, cocoa butter, linseed, olive, palm, peanut, cod liver, poppyseed, almond, beef suet, sesame, soya. (No reaction—corn and rape.)

**Combined male and female:** —castor, cottonseed, coconut, palm kernel, cocoa butter, raisin seed, avocado, linseed, cod liver, palm, peanut, olive, poppyseed, almond, beef suet, sesame, soya, rape. (No reaction—corn.)

The Na and K soaps based on the combined results on males and females in their order of decreasing irritant action, are as follows: Na castor, K castor, Na coconut, K cottonseed, K coconut, Na palm kernel, K palm kernel, K cocoa butter, K raisin seed, K avocado, K linseed, K peanut, Na rape, K cod liver, K palm, Na cottonseed, Na linseed, Na palm, K olive, Na olive, Na raisin seed, Na peanut, Na sesame, K poppyseed, Na almond, Na avocado, Na cocoa butter, Na soya, K almond, K beef suet, K sesame, K soya, Na beef suet, Na corn, Na poppyseed, K rape. (No reaction—Na cod liver and K corn.)

The soaps containing lauric and myristic acids do, as expected, show a greater frequency of irritant action; i.e., coconut, palm, palm kernel, cottonseed and avocado. But other refined oil soaps did not bear out the information obtained with individual fatty acids. For example, castor oil soaps are decidedly irritant while ricinoleic acid soap is very mild. These and other apparent deviations have caused us to investigate the irritant action of binary soap solutions—solutions containing two soaps of individual fatty acids. After this study is completed, we may be more able to interpret the results as noted for the complex mixtures of fatty acids met in refined oils.

### References

- <sup>1</sup> U.S.P. Revision Committee, Jour. A. Ph. A., 24, 891 (1935).
- <sup>2</sup> Edwards, L. D., Jour. A. Ph. A., 28, 209 (1939).
- <sup>3</sup> Emery, B. E., Edwards, L. D., Jour. A. Ph. A., 29, 251 (1940).
- <sup>4</sup> Emery, B. E., Edwards, L. D., Oil and Soap, 17, 64 (1940).

The effect of autoxidation on oils was studied in its relation to changes in properties, including peroxide value, refractive index and viscosity. The oils used were linseed, representing the drying type, poppyseed, representing the semi-drying type, and olive oil, representing the nondrying or fixed oil type. The oil was in each case subjected to a flow of oxygen at 90°C., under which conditions the peroxide value for olive oil changed from 3.8 to 97.4 in 8 hours. Changes occur much more rapidly with the drying oil than with the nondrying oil. However, with each type of oil the curves for the peroxide values rise steeply with time to a maximum, then fall off rather sharply in the case of linseed and poppyseed oils; with olive oil the maximum is maintained for a time, then the peroxide values decrease with an increase in time of oxygen flow. In each case, when the decrease in peroxide values set in, the viscosity begins to increase, so that a distinct relationship is shown between these two properties by the form of the curves. The refractive index of each oil increases with time, although in the case of olive oil this increase is very gradual. K. Täufel and H. Heinisch. *Fette und Seifen* 47, 201-4 (1940).

Pyridinium compounds of higher fatty acids and their amides are among the quaternary ammonium salts found useful in the textile industry. These compounds are cation-active, the opposite of soap which is anion-active. Because of this the quaternary compounds are suitable only for special uses. With the exception of basic dyes, all the substantive dyes have the active part in the negatively charged anion. Cation-active substances can combine with the colored ion of such dyes, e.g. direct dyes, and modify their affinity for the fiber. These agents therefore act as fixing agents for dyes that are not fast to washing, mordants, resists in printing, stripping and levelling agents, etc. T. N. Mehta and D. M. Trivedi. *J. Soc. Dyers & Colourists* 56, 343-51 (1940).



# Soap Output at Record Level

**Census figures for 1939 give total value of soap industry output as \$302,634,474—with tonnage reaching all-time high of 3½ billion pounds. Production of toilet soap, white laundry soap, granulated, powdered and sprayed soaps continues to increase. Production of yellow laundry soap in further decline. Glycerine output gains sharply.**

**A**ERICAN soap factories produced more than three and a half billion pounds of soaps of all kinds in 1939, according to preliminary figures compiled from returns of the 1939 Census of Manufacturers, just released by William L. Austin, director of the Census Bureau. The value of products of the industry reached a total of \$302,634,474, which represented an increase of only a fraction of a per cent over the corresponding figure of \$301,291,547 for 1937. The smallness of the gain reflects a drop in soap prices, as the tonnage figures definitely indicate a substantial expansion in soap sales.

Production of toilet soap in bars, for instance, amounted to 405,083,669 lbs. in 1939, as compared with 360,610,753 lbs. in 1937. This was a gain of over 12 per cent in volume, while the value showed an increase of only two million dollars, from \$62,805,065 in 1937 to \$64,919,683 in 1939. Production of white laundry soap in bars increased from 488,979,981 lbs. in 1937 to 660,766,458 lbs. in 1939, a gain of 35 per cent. Yet the dollar value of this output increased only from \$28,192,491 in 1937 to \$29,887,998 in 1939.

A number of other interesting angles are brought out by a study of the new figures. Yellow laundry soap is clearly shown to be on the decline,—with production dropping from 633,441,319 lbs. in 1937 to 580,215,263 lbs. in 1939. Packaged washing powders exhibit a similar trend,—with output dropping from 146,924,947 lbs. in 1937 to 133,638,514 lbs. in 1939. Granulated, powdered and

sprayed soaps, on the other hand, continue their phenomenal increase in popularity. Production reached 894,727,289 lbs. in 1939, as compared with 743,194,783 lbs. in 1937, and 503,117,738 lbs. in 1935.

Production of liquid soap, not including packaged shampoos, is reported at 39,163,707 lbs. for 1939, a gain of 33 per cent over the 1937 total of 29,869,959 lbs. The total for potash soaps, other than textile and liquid, is given at 30,928,845 lbs. for 1939,—a gain of better than 20 per cent over the 1937 figure of 25,071,652 lbs. These increases give a definite impression of rapidly expanding sales in the potash soap field, and would also indicate, perhaps, that the Census Bureau is now getting reports from a larger percentage of the firms operating in this specialty field. A really complete report for the industry would probably show much larger totals.

Expanding glycerine output is also clearly indicated in the latest census figures. Production of crude jumped from 24,180,767 lbs. in 1937 to 29,461,738 lbs. in 1939. The gain in dynamite glycerine output was even sharper,—64,293,972 lbs. in 1939 as against 43,586,391 lbs. in 1937. Output of C.P. glycerin was 90,484,348 lbs. in 1939,—up twelve million pounds from the 1937 figure of 78,813,063 lbs.

The latest census figures are not strictly comparable to previous data, so far as wages and number of employees are concerned. They indicate that only 13,624 wage earners were employed in the soap industry

in 1939 as compared with 14,008 in 1937, and that wages dropped from \$19,074,574 in 1937 to \$18,800,527 in 1939. The explanation will probably be found in the fact that in the preliminary figures for 1939 the data on personnel employed in distribution, construction, etc. has not been included, where in previous years these figures were added into the general total.

Detailed statistics on production will follow in our January issue.

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Refined cottonseed oil is separated into liquid and solid fractions as follows: The oil is saponified with excess caustic soda and the sodium soap decomposed with 20 per cent sulfuric acid at 80° C. The separated fatty acids are dried at 60-80° C. in a current of carbon dioxide and allowed to crystallize by slow cooling for 24 hours from 40° to 17° C. The entire mixture is then pressed at a slowly increasing pressure up to 150 atmospheres. The liquid portion is again cooled at 8-10° C. to remove the last traces of solid acids, and pressed.

The liquid portion of fatty acids of lower degree of unsaturation is used in the preparation of alkyl resins and varnishes. The solid portion which is chiefly palmitic acid, is used in soap making. A. Drinberg and R. Mamonenko. *Masloboino Zhirovye Delo* 16, No. 1, 19-21 (1940); through Chem. Abs.

— • —  
A paraffin hydrocarbon fraction is partially chlorinated to produce a mixture of alkyl monochlorides with unreacted paraffins free of polychlorides. The mixture is split and the alkyl monochlorides converted to olefins. The mixture is treated with a sulfonating agent which reacts with the olefins. Unreacted paraffins are removed. J. F. Olin, to Sharples Solvents Corp. U. S. Patent No. 2,203,696.



Containers for "Purex" bleach, a product of Purex Corp., Los Angeles, feature a streamlined appearance. They are of a lightweight type, and are closed with screw caps by Phoenix Metal Cap Co. Photo by Heetfield.

## New Products and

An interesting new novelty soap item just introduced by Mem, Inc., New York, is their "Wash Rag Dolly", consisting of three wash rags and a bath size cake of soap. The soap is supplied in verbena, carnation and French fern odors.



Griffin Mfg. Co., Brooklyn, currently using a three-piece display unit to feature "Griffin A.B.C. Shoe Polish" and "Griffin Liquid Wax". The display was designed and produced by Einson-Freeman Co., L. I. City.



## Packages

Manhattan Soap Co., New York, have recently placed a new soap brand on the market,—“Garden Bouquet”. The new bar is 3½ ounces in weight and has a floral bouquet odor. It will be distributed through the same channels as “Sweetheart”.

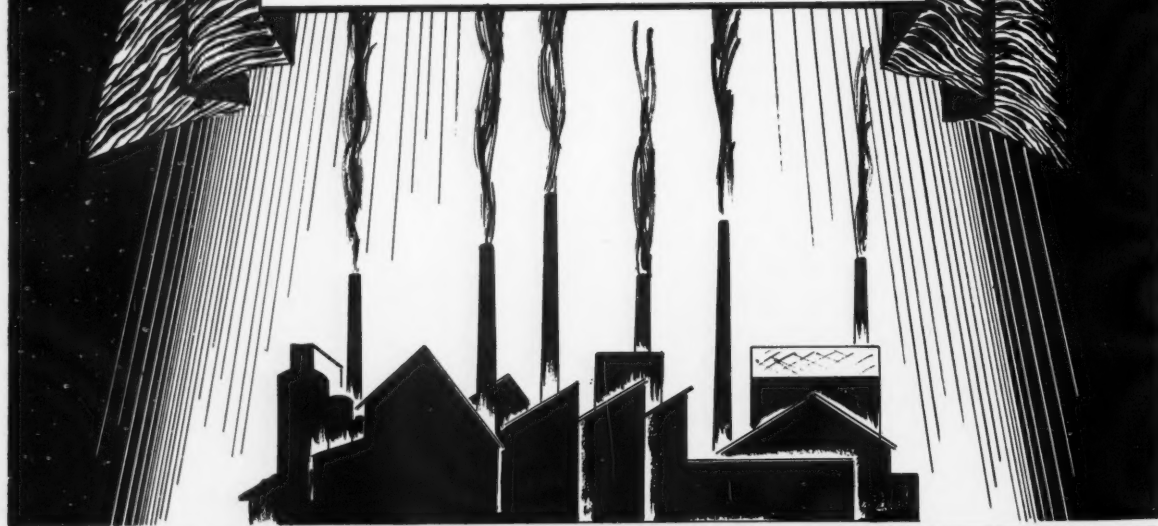


Lightfoot-Schultz, Inc., New York, report heavy sales on their Walt Disney Christmas Gift Stocking, combining a set of the well-known animated cartoon characters in soap. Other recent additions to the L-S novelty line are also illustrated.



# TURNER

CAUSTIC POTASH  
CARBONATE OF POTASH  
CAUSTIC SODA  
PERSULPHATES



## JOSEPH TURNER & COMPANY

RIDGEFIELD, NEW JERSEY

83 Exchange Place, Providence

40th St. and Calumet Ave., Chicago



# News.....

## Harley Soap Buys New Plant

Harley Soap Co., Philadelphia, manufacturer of potash soaps, disinfectants, etc., has purchased a new plant at Pierce and Orthodox Sts. and is now moving from the old location at 2832 E. Pacific St. The principal structure is a two-story stone building on a plot measuring 300x400 feet containing about 40,000 square feet of floor space. Charles B. Solly, president of the company, advises that new products will be added to the Harley line now that sufficient manufacturing space is available. The announcement will be made later on after plans have been completed.

## Buys S. & S. Soap Co.

Glen Weintz recently purchased S. & S. Soap Co., Kenosha, Wis., from Raymond Schneeberger and has organized Kenosha Soap Manufacturing Co. to produce "Kwik Suds," an all-purpose soap powder, formerly manufactured by S. & S. Soap Co. Mr. Weintz, who is an amateur radio operator, operates his business from a bed in a room at St. Catherine's Hospital, Kenosha, where he has been confined since 1933 when he was injured in an automobile accident.

## Largest Shulton Ad Campaign

Shulton, Inc., New York, in its pre-Christmas advertising campaign, will use 49 newspapers in addition to its national advertising in 19 magazines, to feature the "Early American Old Spice" line of toiletries.

## Name Deupree to Defense Post

Richard R. Deupree, president of Procter & Gamble Co., Cincinnati, has been appointed Chief of the Agricultural and Forest Products Division of the National Defense

Advisory Commission, according to an announcement received from Washington. He will serve without compensation. Mr. Deupree joined



Richard R. Deupree

P. & G. in 1905, and became its president in 1930. He also is president of the Buckeye Cotton Oil Co., of Memphis, Tennessee, and a director of the Cincinnati and Suburban Bell Telephone Co., and the Louisville and Jeffersonville Bridge and Railroad Co. He has been a member of the Business Advisory Council of the Department of Commerce for several years.

## Lends Meters to Customers

J. B. Ford Sales Co., Wyandotte, Mich., through a new company policy, lends meters, known as "Keego" meters, for measuring the concentration of washing compound in mechanical dishwashing machines, to customers who use a minimum quantity of "Keego" cleaner per year. The meter is attached to the machine with two electrodes in contact with the wash water. The concentration of compound which is equivalent to pH of the wash water is indicated by means of a dial calibrated in per cent solution strength.

## Wilson Co. Lose Tax Appeal

A recent decision of the Supreme Court affirmed a Court of Claims decision refusing to consider claims of Wilson & Co., Chicago packer, for refund of processing taxes paid under the first Agricultural Adjustment Act which was declared unconstitutional. A tax "drawback" of \$144,666 was sought. The government contended that the method of restoring illegally collected taxes was altered after the law was invalidated.

## "Lifebuoy" Premium Offer

Lever Bros. Co., Cambridge, Mass., were offering a crystal glass "Handi Dish" as a premium with "Lifebuoy" soap in Chicago during November. The plate, 6 1/2 inches square, was obtainable for one cent with each purchase of three cakes of this product.

## "Soilax" at Advertising Show

Economics Laboratory, Inc., St. Paul, Minn., had a display of their "Soilax" cleaning compound at the Outdoor Advertising Association's 49th annual convention in Chicago, Nov. 14-16. Here E. O. Briel, traveling supervisor, and R. A. Harlan, Chicago manager, demonstrated the use of "Soilax" for removing dirt and grime from painted billboards and outdoor signs. The company has developed a market for "Soilax" for this purpose in notoriously smoky cities, coal-mining areas and similar districts, Mr. Briel stated.

## Talks to Chicago Drug Ass'n

Charles E. Osterkamp of International Shoe Co. was guest speaker at the Nov. 28 luncheon of the Chicago Drug and Chemical Association. Illustrating his topic, "The Romance of Leather," he displayed raw materials and an extensive collection of antique shoes.

## Debate N. J. Packaging Bill

Action on the New Jersey net weight and fill of package bill, (S 174), which reached its second reading in the legislature last month, has been postponed at least until the legislature reconvenes, December 9, on the suggestion of Senator Scott, chairman of the N. J. Senate Judiciary Committee. Meanwhile further attempts are being made in unofficial conferences to iron out provisions in the bill to which manufacturers of many of the products affected have taken sharp exception.

The bill in its present form provides regulations for the packaging of a series of products including disinfectants, insecticides, polishes, soap powders, cleaning powders, cleaning fluids, etc., requiring a marking of net weight or count on each package, the name of the manufacturer or distributor, and a provision that packages not be so labeled, marked, constructed or filled as to be deceptive or misleading. The terms "deceptive" and "misleading" are defined as to mean "any package or container which has been so designed, constructed or filled by the manufacturer, packer or distributor as to lead the ordinary purchaser to believe that he is receiving a greater quantity than the package or container actually holds."

Violation of the measure would become a criminal offense, punishable by a fine of \$100 to \$500 or by 90 days in prison, or both.

## Bars "Cameo" Registration

Opposition by Procter & Gamble Co., Cincinnati, to registration of a trade-mark comprising the word, "Cameo," associated with a cameo-like bust-profile of a woman shown in white on an oval black background, for a preparation used as a general household cleanser, by Cameo Corp., Minneapolis, was recently upheld in a decision in the Court of Customs and Patent Appeals. The registered "Camay" mark of P. & G. for toilet and bath soap is similarly associated with a silhouette-like profile picture of the head and neck of a woman shown in all white on a cir-

cular black background. Since the goods involved are of the same general class and the marks so nearly resemble each other, registration of the "Cameo" mark was not allowed on the grounds that concurrent use of the two marks would be likely to cause confusion in the mind of the public.

## Jergens Appeals Tax Case

Appeal from the judgment of United States Judge John H. Druffel, dismissing their suit for refund of \$364,337.09 allegedly assessed illegally as manufacturers' excise taxes on toilet preparations manufactured and marketed by them, has been filed in Circuit Court of Appeals by the Andrew Jergens Company, John H. Woodbury, Inc., and the Jergens-Woodbury Sales Corporation, Cincinnati. The appellee is Thomas J. Conner, Collector of Internal Revenue. Judge Druffel, in passing on the case, held that the plaintiffs did not show conclusively that they had not passed on to their customers the excise taxes imposed and collected by the government, and that they were entitled to recovery of the amount sought.

## New Dentifrice Specifications

New Federal specifications for tooth-paste, replacing specification FFF-D-191, have been approved by the director of procurement and will become effective February 1, 1941. The number of the new specification is FFF-D-191a. Copies may be purchased from the superintendent of documents, Government Printing Office, Washington, D. C., at five cents each.

## Introduce "Wonder-Kleen"

Williams Company, Kokomo, Ind., is introducing "Wonder-Kleen," a new cleaning product, through local advertising in northern Indiana cities and with a cash prize contest in Indianapolis.

## Extend Alkali Prices For 1941

Solvay Sales Corp., New York, has announced no change will be made in soda ash and caustic soda prices on 1941 contracts.

## Magnus Chemical Expands

Magnus Chemical Co., manufacturer of industrial cleaning materials, industrial soaps and metal-working lubricants, has increased by more than 120 per cent its manufacturing area through a long-term lease of four additional factory buildings adjacent to its present plant in Garwood, N. J. Six factory units now comprise the plant's set-up.

The additional buildings have been renovated and new manufacturing equipment has been installed. One of the structures, of brick and steel, will house the grinding and milling department, while a steel and concrete, fireproof and explosion-proof building will be used for special chemical processing in connection with the manufacture of a number of special products. While the company has some government contracts, it was announced that the bulk of the expanding business necessitating the increased manufacturing facilities is in normal industrial channels.

The company's products include floor, hand, automotive and general cleaning materials, sulfonated and emulsifying oils and lubricants. The concern was organized 19 years ago, beginning its production in a Brooklyn loft in 1921. It moved to Garwood in 1928. Officers include: president, W. M. Campbell; vice-president in charge of manufacturing, R. W. Mitchell; vice-president in charge of sales, D. Blanchard; secretary and treasurer, W. M. Garbe.

## P & G Quarterly Earnings Lower

Procter & Gamble Co., Cincinnati, has announced consolidated net earnings of the company for the three months ended September 30 at \$4,589,992, equal to 69.3c a share on common stock. These figures exclude earnings of subsidiary companies in England and Canada, except as they had been made available in United States funds. In the corresponding quarter last year net earnings amounted to \$6,951,841, or 1.06 a common share.

### Shulton Plans Sales Meeting

Members of the sales staff of Shulton, Inc., will meet at company headquarters, 630 Fifth Ave., New York, January 6-8, in a national sales convention under the general direction of Malcolm Stearns, sales manager. William L. Schultz, head of the company, will outline 1941 plans for merchandising and promotion of the "Early American Old Spice" and the new "Friendship's Garden" line of soaps and toiletries marketed by the company. During the meeting the twenty-eight salesmen expected to attend will visit the company's Hoboken plant.

### Carl W. Nerish Dies

Carl W. Nerish, 28, chemist with Procter & Gamble Co., Cincinnati, died November 14 as a result of burns suffered a few hours earlier at the recently built laboratory in St. Bernard. Carl Vonder Ahe, 35, about to relieve Nerish on a shift, was injured. Fred A. Brown, plant superintendent, said Nerish was refilling a still used in the reclaiming of alcohol, and that fumes were ignited by an electric heater he apparently had neglected to turn off.

### Atwood Mfg. Co. Moves

Atwood Manufacturing Co., detergent manufacturer of Wilmington, Del., has recently moved to new quarters at 921 Market St. Company offices were formerly at 2910 Market St.

### Bristol-Myers Names Officers

Robert B. Brown, Walter B. Johnson and William M. Springer were elected vice-presidents of Bristol-Myers Co., New York, at a recent meeting of the board of directors.

### Salesmen Nominate Officers

Officers nominated at a recent meeting, by the nominating committee of the Salesmen's Association of the American Chemical Industry, New York, for 1941 are as follows: president—Walter D. Merrill, of Joseph Turner & Co.; vice-president—Carl O. Lind, of Dow Chemical Co.; treas-

urer—Gerald S. Furman, of Merck & Co.; secretary—John J. Butler, Jr., of Industrial Chemical Sales Co. New



Walter D. Merrill

executive committee members nominated for three year terms are Charles W. Frost, of Prior Chemical Co., and George T. Short, of Wishnick-Tumpeer, Inc.

### CSA Xmas Party Dec. 19

The annual Christmas Party of the Salesmen's Association of the American Chemical Industry will be held at the Hotel Edison, New York, the evening of Thursday, December 19. Phil LoBue of Joseph Turner & Co., Ridgefield, N. J., is chairman of the entertainment committee and reservations should be made through him by telephoning CHickering 4-7531. Tickets for the party are \$6.00. They include open house at the bar from 6:00 to 7:00 p.m., dinner at 7:30 and a floor show which will follow the dinner. The 1940 edition of *The Chemical Peddler*, trade paper extraordinary and source book for chemical salesmen, will make its appearance at the dinner.

### New Quaker Metal Cleaner

Quaker Chemical Products Corp., Conshohocken, Pa., has just put on the market a new material for removing buffing compounds, grease and similar foreign matter from all metals. The new product, "Quasol No. 11," is used in 7 to 12 parts of kerosene or any other mineral solvent.

### New C-P-P Publicity Manager

Harry Keller, who in recent years has handled national publicity for the William Morris and Shattuck-Ettinger agencies of Hollywood, Cal., has just been named to the newly-created post of director of public relations for Colgate-Palmolive-Peet Co., Jersey City. His first assignment will be the coordination of the company's radio, general, trade and institutional publicity. The company is currently sponsoring nine separate network radio shows.

### American Can Head Dies

Herbert A. Baker, president of American Can Co., New York, died November 25 at New York Hospital where he had been a patient for thirteen months. He was fifty-nine years old. Born in Canada and a graduate of the University of Toronto, he migrated to the United States in 1906. In 1908, he began his life-long association with American Can Co., becoming chief chemist after four years, later manager of the central sales division and vice-president, and finally president of the company in 1936.

### Borden Executive Joins Lever

Robert Webb-Peploe, vice-president in charge of sales of Borden's Farm Products division and president of Dairy Sealed Corp., New York, resigned these positions recently to become an executive of Lever Bros. Co., Cambridge, Mass.

### Rob P & G Chicago Collector

Two armed and masked robbers invaded the lobby of Procter & Gamble Distributing Company's office in Chicago recently and forced a collector, John Wagner, to turn over his day's collections, amounting to \$850. Then Wagner was pushed into an elevator which the operator was ordered to take up, as the bandits departed.

### W. Va. Prison Soap Plant

Machinery for the manufacture of soap has recently been installed in the West Virginia penitentiary, according to an announcement made by Warden Leo A. Calliston.



# WE MAKE IT CLEAR

Warner Caustic Soda has made it clear to many prominent users that paying a price premium for caustic soda is an unnecessary production expense.

Warner Textile Grade Caustic Soda has no turbidity. Its salt content is low. Its iron content is as low, or lower, than any caustic soda made by any method.

Warner Caustic Soda is furnished in standard 50% and 70% concentrations — as well as in 73% concentration shipped in specially lined tank cars. Also flake or solid. Why not order a car for prompt shipment?



## WE INVITE INQUIRIES ON WARNER CAUSTIC SODA AND WARNER TETRA SODIUM PYROPHOSPHATE

Acid Sodium Pyrophosphate  
Phosphoric Acid  
Sodium Phosphates  
Liquid Caustic Potash  
Chlorine, Liquid  
Sulfur Chloride

Trichlorethylene  
Barium Carbonate  
Perchloroethylene  
Carbon Bisulfide  
Sodium Sulfide  
Bromine

Blanc Fixe  
Carbon Tetrachloride  
Epsom Salt  
Hydrogen Peroxide  
Alumina Hydrate, Light  
Chemical Grade Magnesia

**CHEMICAL** **WARNER** **COMPANY**

DIVISION OF  
WESTVACO CHLORINE PRODUCTS CORPORATION

CHRYSLER BUILDING, NEW YORK, N. Y.



## Sanitary Products Manufacturers Exhibit at N.Y. Hotel Show

**N**EARLY twenty companies in the soap or sanitary supplies field were exhibitors at the 25th National Hotel Exposition held in New York at Grand Central Palace, Nov. 11 to 15. The silver jubilee show which was the largest ever held in the hotel industry occupied the entire three floors of Grand Central Palace and attracted 535 exhibitors. Among them were:

*Continental Car-Na-Var Corp.*, Brazil, Ind. The company's exhibit featured products for the maintenance of floors and floor coverings: "Car-Na-Var," a varnish-wax floor treatment and the "Car-Na-Var" shampoo-vacuum machine for cleaning rugs and carpets on the floor. James H. Longshore, president of the company, was in charge of the exhibit assisted by K. B. Cadugan, R. W. Jackson and David Harrison.

*Du Bois Soap Co.*, Cincinnati. A demonstration of the working of a dishwashing machine equipped with the Du Bois feed regulator using "K-O-L" dishwashing compound, was part of the exhibit of the Du Bois company. Other company products shown were "Temp," "Neutrolid" and "Neutraglos." In charge of the exhibit was T. V. Du Bois. Also in attendance were B. J. Cagle, L. M. Barnett, E. W. Carney and C. T. Olson of the sales staff.

*Economics Laboratory, Inc.*, St. Paul, Minn. An animated display of before-and-after dishwashing with "Super Soilax" and the operation of the "Soilax" dispensing unit were the main items of the company's exhibit. J. P. Connors, eastern district manager, was in charge. E. B. Osborn, sales manager and son of the president, was also present.

*J. B. Ford Sales Co.*, Wyandotte, Mich. The new Ford "Keego" Meter, an automatic attachment for mechanical dishwashing machines for measuring instantly the effective con-

centration of dishwashing compound was the feature of this booth. "Keego" Cleaner and "Steri-Chlor" were also demonstrated. In attendance were L. D. Dodson, manager of the New York territory; J. F. Brady, G. D. Caffrey, Joseph Hickson, L. S. Higgenbotham, A. E. Nelson, and John T. Pryor, service representatives.

*Franklin Research Co.*, Philadelphia. The company's complete line of floor maintenance materials and furniture polish were shown with a demonstration of water resistance and slip resistance. At the booth were L. E. Fried and Irwin Jacobs, New York distributor representatives; L. F. Glynn, wood and floor division, and A. Y. Lightcap, sales department.

*R. M. Hollingshead Corp.*, Camden, N. J. In addition to the "Whiz" line of waxes, cleaners, polishes and disinfectants, a compressed air insecticide sprayer with a special needle-applicator for inserting into furniture and under carpets was shown at this company's booth. W. F. Plowfield, director of sales, and Ario P. Hausman, were in attendance.

*Jackson of London Products*, New York. Mark Jackson, who developed "Reviva" for removing alcohol and other stains from furniture, and "Patina," furniture polish, demonstrated these products at his company's booth. Mr. Jackson was formerly consultant colorist for Charles of London, furniture manufacturers.

*Long Island Soap Co.*, Brooklyn. Soaps, cleaners, sanitary and janitors' supplies of all types were exhibited at the Lisco booth. G. S. Steiner, sales manager; Alexander Baar, treasurer, and A. Vicari were in attendance.

*Kwik Products Co.*, New York. Feature items of the Kwik line shown by R. G. Dill, general manager, in-

cluded "Kwik-Dry Cleaner" for rugs, carpets and upholstery; "Kwik Wall Cleaner" and a new process of the company for reviving and recoloring leather furniture. Also in attendance were H. C. Marsh, Louis Cooper, Leo Stiefel and M. E. Neuberger, salesmen.

*Paul S. Jones Co.*, New York. As sole distributor for the products of Calgon, Inc., Pittsburgh, in the New York area, the company featured the Calgon line of cleaning materials including "Calgolac," "Calgon" and "Calgonite." Paul S. Jones, president; Ernest F. Bell, vice-president, and James D. Whitfield, Calgonite representative, were in charge of the booth.

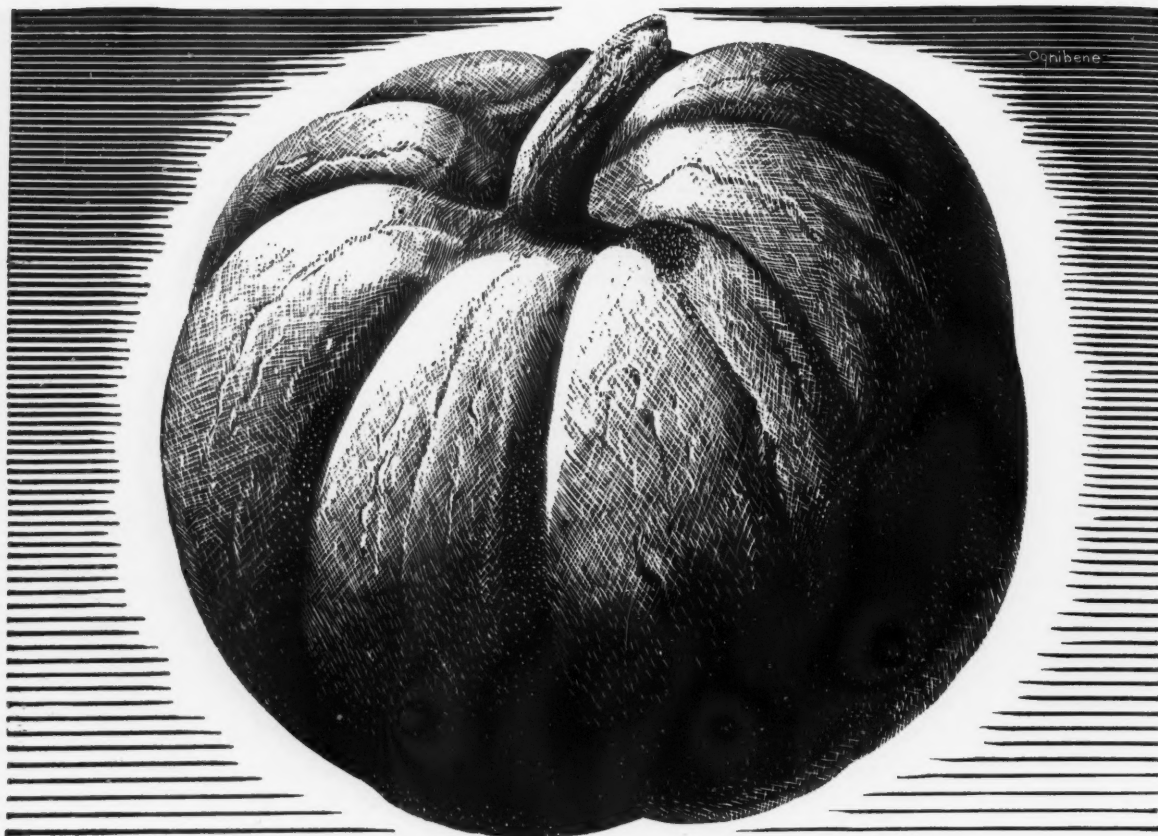
*Pritz Co.*, New York. "Pritz" dirt remover, a waterless cleaner for painted surfaces, linoleums, tile, brick, wall paper, venetian blinds and walls, was demonstrated at this company's booth. Mr. Pritzer, president of the company, and Mr. Graham were in charge.

*Rustain Products, Inc.*, New York. Features of this exhibit were "Rustain," for removing rust and stains from non-resilient surfaces; "Norince," for general cleaning and mopping, and "Zud," stain remover in small-sized package. D. J. Saul, treasurer, was in charge.

*John T. Stanley Co.*, New York. An attractive waterfall arrangement of soap bubbles was the outstanding part of this company's exhibit. "Dair-i-san" for dishes and glasses and Stanley's "Silver-Wash" were demonstrated. The booth was under the supervision of John W. Stanley, vice-president, and F. A. Cook, sales manager.

*System Products Co.*, Chicago. The "Kleen-Rite" cleaner system for carpets was shown at this booth by P. J. Ernteen, sales manager; C. F. King, general sales manager for the eastern territory, and C. Widden.

*Voorhis-Tiebout Co.*, Rhinebeck, N. Y. "V-T Soap Pulverizers," soap dispensers which incorporate a solid cake of specially dried soap and grinding knives for dispensing a measured amount of pulverized soap at the turn of a crank were shown at this booth by Edward M. McNally,



## Produced from Prize Seed

It's the good seedlings that harvest prize-winning crops — and good basic materials that put manufactured products in the preferred bracket. Niagara Alkali Company is helping many manufacturers improve the value of their products by furnishing a consistently high quality supply of Caustic Potash, Caustic Soda and Carbonate of Potash. If you use these materials think of Niagara quality as "prize seed" for producing ribbon-winning products!

**Niagara**  **ALKALI COMPANY**  
60 EAST 42nd STREET, NEW YORK, N. Y.

Affiliated with Electro Bleaching Gas Company, Pioneer Manufacturer of Liquid Chlorine

PARA  
CAUSTIC SODA  
CARBONATE OF POTASH  
CAUSTIC POTASH

jr., sales manager; Charles J. O'Connell, jr., sales representative for New York and New England, and Clara Weller.

*West Disinfecting Co.*, Long Island City, N. Y. A "Sanitor Vaporizer" giving off a cloud of pleasant smelling vapor with insecticidal properties was the main item of the West exhibit. Other sanitary supplies were also shown. In charge was J. A. Matinka, service manager, assisted by E. H. Frawley.

#### Soap Co. Founder Dies

Juan F. Brittingham, 81, one of Mexico's leading industrialists and founder of Mexico's first soap factory, died recently at St. Vincent's Hospital, Los Angeles. He was born in St. Louis. In 1883, he took a vacation trip to Mexico which resulted in a 57-year stay there as one of the country's most active promoters. He founded what is said to be Mexico's first cottonseed oil and soap factory in Gomez Palacio, Durango, and other businesses and plants in Monterrey and Mexicali. He is survived by his widow, seven children, fifteen grandchildren and one great-grandchild.

#### P & G Products in 1c Sale

A "1 Cent Sale" on "Dreft," featured Procter & Gamble's special promotional efforts in Chicago last month. Purchasers of a large size package at regular price could obtain a medium size carton for a penny additional. Earlier in the month, P. & G. distributed coupons entitling purchasers of "Ivory" and "Camay" soaps to additional cakes of these products, while purchasers of "Oxydol" laundry powder were given a cake of "American Family" soap as their premium.

#### McDow Joins Anchor Cap

C. B. McDow, eastern district sales manager of Phoenix Metal Cap Co., has recently been appointed eastern home office representative of Anchor Cap & Closure Corp., Lancaster, Ohio. Mr. McDow will have his headquarters at the company's Long Island City plant.

#### False Prices Scored by FTC

The practice of selling soap in containers bearing a price mark at a price other than that stamped on the container was ordered stopped by the Federal Trade Commission in a recent cease and desist order directed against Albert T. Cherry, doing business as A. T. Cherry Co. and Atco Soap Co. of Dayton. The commission found that A. T. Cherry sells his soap and soap powder to canvassers, who sell the products in so-called "combination deals." A typical "deal" consists of two cartons of soap and four boxes of powder, the wholesale cost of which is about 18 cents. Although, according to findings, each carton contains the statement, "combination deal, 75 cents," the deals are not uniform as to content or price, but each canvasser determines for himself the kind and

number of articles to go into each deal and the price at which it is to be sold. The FTC has ordered the concerns cited to cease using any expression indicating a price on the container in which soap products are sold unless the quantity of products enclosed is regularly offered for sale at the sum indicated; from representing as customary prices for soap which are in fact fictitious; and from placing in the hands of purchasers for resale, any soap products price marked in violation of the order.

#### Am. Can Advances Sullivan

M. J. Sullivan, formerly vice-president in charge of the Pacific district of American Can Co., New York, has just been made executive vice-president. Mr. Sullivan's headquarters will be at the company's New York office.

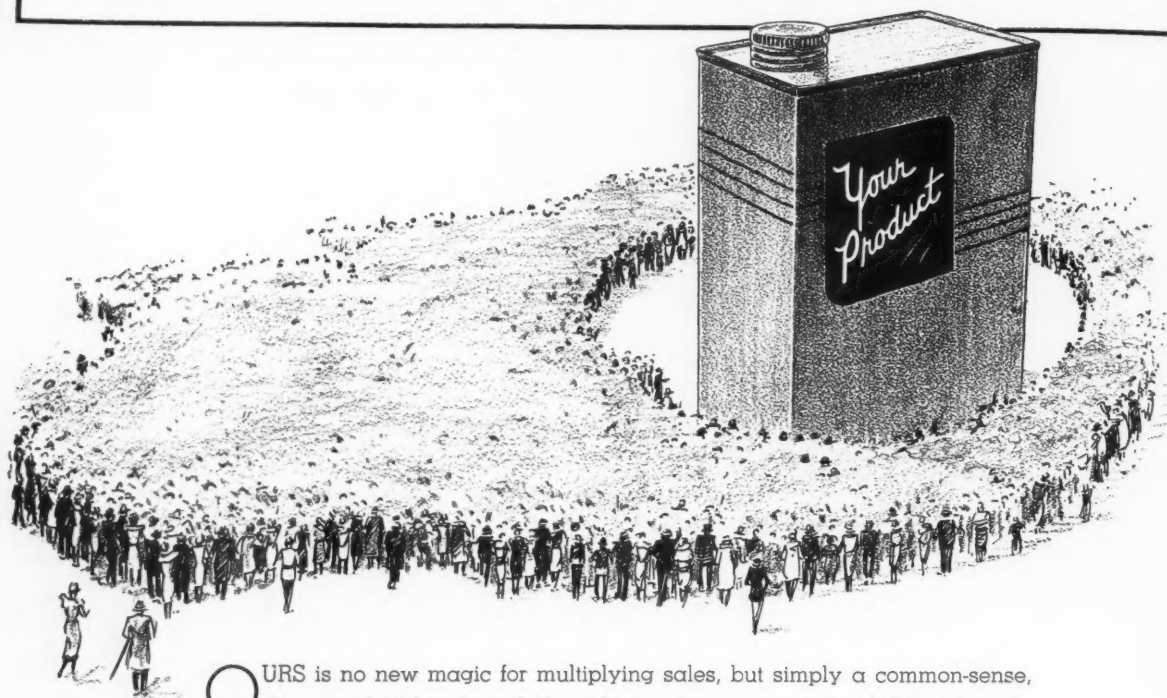


Max Finger (left), technical director and Homer F. Fry, (right), president of Zoned Soap Co., Fort Wayne, Ind. The company, whose plant is shown below, is supplying soap products of varying formulae to suit different water conditions in sections where sales are made.





**ONLY PROSPECTS TODAY....  
THEY'LL BE YOUR CUSTOMERS TOMORROW!**



URS is no new magic for multiplying sales, but simply a common-sense, business-building formula based upon two assumptions: 1. That pleasant fragrance adds greatly to any household product's acceptance in the home; 2. That the creation of an outstanding fly spray or insecticide demands as much artistry and imagination as the compounding of odors for toiletries or cosmetics. When the problem, therefore, of perfuming his product is turned over to us, the spray manufacturer can be very sure that the best minds among our laboratory specialists will have an active part in its solution. He can be sure, too, that the new fragrance will embody every feature essential to his satisfaction and to its continuous and profitable use. It will provide complete coverage; its fragrance will be pleasant and distinctive . . . lasting and stable; it will be economical to use; finally, it will be compounded from materials of which we can assure ample, future supplies. And in these uncertain times, **that** is a vital consideration.

Already, a new season looms ahead. Why not give us ample time to render utmost service by discussing your problems with us **NOW?**



**FRITZSCHE BROTHERS, Inc.**

PORT AUTHORITY COMMERCE BLDG., 76 NINTH AVENUE, NEW YORK, N. Y.

BRANCH STOCKS  
BOSTON CHICAGO LOS ANGELES ST. LOUIS TORONTO, CANADA MEXICO, D. F.  
FACTORIES AT CLIFTON, N. J. AND SEILLANS (VARI) FRANCE



# A FRITZSCHE PRODUCT for EVERY PURPOSE...

**ESSENTIAL OILS** . . . The FRITZSCHE label on your Essential Oil container is an absolute guarantee of purity and complete conformity to the highest standards. These basic materials are the finest that modern methods and experience can produce.

**AROMATIC CHEMICALS** . . . For finer aromatic effects and greater economy, choose your chemical requirements from this large and superlative selection of materials.

**FIXATIVES** . . . Timely now are our four Artificial Animal Scents—Musk, Civet, Castoreum and Ambergris, all especially adaptable to soap making. Our complete line includes, also, Rose Crystals—one of the best fixatives for all-around use.

**ANTI-OXIDANTS** . . . Developed for the preservation of soaps, animal and vegetable fats and oils, these materials are highly important to the soap manufacturer. Write us for details concerning Oxidex.

**BATH SALT PERFUMES** . . . These materials, combining both perfume and color, greatly facilitate the process of manufacture. Write for circular describing our Bath Perstels and giving complete list of perfume-color blends.

**INSECTICIDES AND DISINFECTANTS** . . . Some of our most important research achievements have been in this field of investigation. All materials listed in our catalog and recommended for these purposes have behind them guarantees of experience and the indisputable tests of time.

**DEODORIZING COMPOUNDS** . . . Write us for circulars describing Neutroleum, Javollal, Methalate "C", Safrella and other important deodorizing compounds of proven effectiveness.

**TOILET SOAP COMPOUNDS** . . . Many new and important toilet soap perfumes have been added to our already extensive line. These provide exquisite odor quality at very low cost. Ask us for particulars.

**LIQUID SOAP AND SHAMPOO PERFUMES** . . . Being highly soluble and mixing readily with liquid soaps, these special perfume blends are easy to use and low in cost.

**DENTAL AND ORAL FLAVORS** . . . These flavoring specialties are skillfully blended to produce pleasant, clean, refreshing taste effects. We are prepared, also, to create flavor blends to meet your own specifications and costs. Please feel free to consult us.

SEND FOR



SAMPLES

## FRITZSCHE BROTHERS, Inc.

PORT AUTHORITY COMMERCE BLDG., 76 NINTH AVENUE, NEW YORK, N. Y.

BRANCH STOCKS  
BOSTON CHICAGO LOS ANGELES ST. LOUIS TORONTO, CANADA MEXICO, D. F.  
FACTORIES AT CLIFTON, N. J. AND SEILLANS (VARI) FRANCE

### P & G Church Label Offer

Procter & Gamble Co., Ivorydale, O., repeated this year their offer to assist church groups to obtain holiday funds by turning in labels, wrappers and box tops from various P. & G. products. On "Camay" soap wrappers and on box tops from "Ivory Flakes" or "Oxydol," one-half cent each was offered, when received from church organizations. Individual consumers were debarred as beneficiaries but churches of all creeds were eligible and no limit was placed on the amount any one church could collect. The offer was to expire December 2nd.

### Announce Package Competition

The annual All-American Package Competition under the sponsorship of *Modern Packaging*, New York, has again been opened to entries from all comers who use, design or manufacture packages. Any package, display or illustration of packaging machinery installation which reached the market or entered production during the calendar year of 1940 is eligible for entry. Three major awards within each of twenty classifications will be given. The current competition, which is the tenth annual contest of the kind, closes on January 6, 1941, and winners will be announced in March, 1941.

### Canada Buys Soap for Army

Five hundred tons of soap—equivalent to more than 5,330,000 three-ounce cakes—have been purchased for Canada's armed forces in the past three months, the Dominion Department of Munitions and Supply reports.

### Owens-Ill. Advances Drum

Charles L. Drum has recently been appointed by Owens-Illinois Glass Co., Toledo, to the position of western sales manager in charge of sales in Chicago, Milwaukee, Peoria, St. Louis, Kansas City, St. Paul, Omaha and Denver. Mr. Drum has been Chicago branch manager since 1925. He is president of the Chicago Drug and Chemical Association.

# U.S.I. ALCOHOL NEWS

December



A Monthly Review of Technical Developments for Chemists and Executives



1940

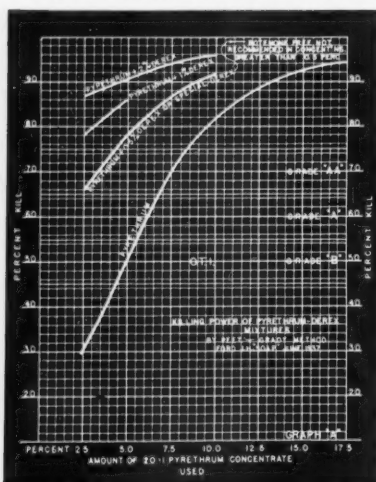
## LOWER SPRAY COSTS PER UNIT KILL

### Solvent for Derris Extractives Increases Insecticidal Powers

Low cost, high kill power in insecticides are easily obtained by the use of Dimethyl Carbobutoxy Dihydropyrone, the solvent for derris extractives specially developed by U.S.I. "Dihydropyrone" has the special advantage of being insecticidally active.

"Dihydropyrone" is available to manufacturers who prefer to use their own derris extractives. For manufacturers who desire a ready-to-use concentrate, U.S.I. offers DEREK, a solution of derris extractives, with or without rotenone, in "Dihydropyrone."

DEREK offers exceptional opportunities to obtain high kill economically. Derris extractives give lowest cost per unit kill, and their



Graph shows increase in kill power when small amounts of DEREK are added to pyrethrum.

effectiveness is increased by solution in "Dihydropyrone." When 0.5% DEREK is added to a paralytic agent having a knockdown equal to that of 3% pyrethrum, 20 pound concentrate, the resulting spray has AA Grade kill, and possesses the added sales advantage of being practically odorless.

"Dihydropyrone" dissolves 7.5% rotenone at 20° C., dissolves 25-30% derris resinate at the same temperature. It will hold derris extractives in solution in the commonly used base oils. Its excellent repellent properties are especially suitable for cattle sprays and mosquito lotions. In combination with U.S.I.'s BK-5, it can be used for formulating lotions combining sun-screening and mosquito-repelling properties.

U.S.I. will gladly give further information on "Dihydropyrone" and DEREK.



Insecticidal sprays with high kill power and practically no odor can be formulated at low cost with U.S.I.'s solvent, "Dihydropyrone," which possesses insecticidal properties of its own.

### TECHNICAL DEVELOPMENTS

For further information write U.S.I.

**A soap anti-oxidant** is said to be effective in proportions of 1.1%, and to require less perfume in the soap because it results in less soapy odor. (No. 400a)

**Perfumery mixtures** recently patented contain ingredients prepared by reacting acetone or other ketones with alkyl pyrocatechols. It is said that compounds can be prepared with odors simulating amber, opopanax, labdanum. (No. 401a)

**A drug mill of stainless steel** is said to resist corrosion by materials commonly used in pharmaceutical preparations and to reduce danger of contamination. (No. 402a)

**A bottle cleaner** is described as intended for removing lint, dust, and dirt from new glassware after unpacking it from shipping cartons. Maker says it is automatic, handles a wide variety of types. (No. 403a)

**Straining mucilage** or thick emulsions is simplified by the use of a turbine sifter, it is claimed. It is said that the sifter can be used in continuous operation. (No. 404a)

**Recommended colors** for eye cosmetics are summarized in a recently issued bulletin. (No. 405a)

**A "promulsor"** is said to combine principles of homogenizer and colloid mill, and to be adaptable to requirements of food, drug, and cosmetic industries. (No. 406a)

**New artificial civet** is described as twice as strong as Abyssian civet, equal in strength to civet absolute. (No. 407a)

**A magnolia character** can be imparted to extracts, powders, and creams by a new product, it is claimed. (No. 408a)

### ALCOHOL GIVES COOL EFFECT IN CLEANSING PAD LOTIONS



Popular cleansing pads get extra sales value from the use of lotions containing alcohol, which imparts a cooling effect, it is reported. Relative newcomers in the cosmetic field, these lotions have quickly established themselves, offer interesting sales possibilities.

## U.S. INDUSTRIAL CHEMICALS, INC.

60 EAST 42ND ST., NEW YORK



BRANCHES IN ALL PRINCIPAL CITIES

INDUSTRIAL ALCOHOL IN ALL GRADES AND ALL FORMULAS

# Contracts Awarded

## Soap Chips Award

Iowa Soap Co., Burlington, Iowa, was awarded the contract on 20,000 lbs. soap chips at 5.5c. in a recent opening by the Army Quartermaster Corps for Chicago. In the same opening Hayward Chemical Co., Chicago, was awarded the contract on 90,000 lbs. trisodium phosphate at 2.65c.

## Soap Awards

In a recent opening by the Army Quartermaster Corps for Ft. Sam Houston, Texas, the following awards were granted: Day & Frick, Philadelphia, 10,600 cakes grit soap at 2.3c.; Selmar Soap Co., Memphis, 234,000 lbs. laundry soap at 3.23c.

## Green Soap Awards

Armour & Co., Chicago, was awarded the contract on 20,000 lbs. green soap for \$1,782 in a recent opening by the Veterans Administration, procurement division, Washington, D. C.

## Chip Soap Bid

Colgate-Palmolive-Peet Co., Jersey City, was low bidder on 75,000 lbs. chip soap at 4.86c. in a recent opening by the procurement division, Treasury Department, Washington, D. C.

## Grit Soap Bid

John T. Stanley Co., New York, bid low on 2,000 lbs. grit soap at 7.2c. in a recent opening by the Post Office Department, Washington, D. C.

## Metal Polish Bid

Waxaid Co., Baltimore, submitted the low bid of 6.4c. on 5,004 lbs. metal polish in a recent opening by the Post Office Department, Washington, D. C.

## Soap Awards

In a recent opening by the Army Quartermaster Corps for Ft. Mason, Cal., the following awards

were granted: 120 gals. liquid toilet soap, 32c., Western Chemical Corp., San Francisco; 1,008 cans scouring powder, 2.48c., Armour & Co. of Del., San Francisco.

## Army Awards

In a recent opening by the Army Quartermaster for Ft. Sam Houston, Texas, the following awards were granted: Gillam Soap Works, Ft. Worth, Texas, 34,000 lbs. laundry soap at 4.44c.; Imperial Products Co., Philadelphia, 21,300 pts. metal polish at 6.9c.; Procter & Gamble Distributing Co., Dallas, 10,000 cakes toilet soap at 1.19c.; Unity Sanitary Supply Co., New York, 97,800 cakes grit soap at 3.7c.; Gulf Coast Chemical Co., Houston, 137,475 lbs. trisodium phosphate at 3.06c.

## Soap Awards

In a recent opening by the Army Quartermaster Corps for Chicago, the following awards were granted: Procter & Gamble Distributing Co., Chicago, 500,040 cakes 16-oz. grit soap at 2.74c.; Armour & Co., Chicago, 3,500 cakes 6-oz. toilet soap at 2.2c.; Colgate-Palmolive-Peet Co., Jersey City, 10,000 cakes 2-oz. toilet soap at 0.797c.; M. H. Fairchild & Bro., Chicago, 40,000 cakes 10-oz. grit soap at 2.25c. and 35,000 cakes 9-oz. grit soap at 1.9c.

## Floor Wax Award

Waxaid Co., Baltimore, was awarded the contract on 16,000 lbs. floor wax at 13.8c. in a recent opening by the Marine Corps, Philadelphia.

## Panama Canal Bids

In a recent opening for the Panama Canal at Washington, D. C., the following low bids were submitted: on 3,000 lbs. chip soap, \$138, by Armour & Co., Chicago; on 1,500 lbs. grit soap, \$61.50, by Newell-Gutradt Co., San Francisco; on 9,000 lbs. salt-water soap, \$198, by Newell-Gutradt Co., San Francisco; on 20,-

000 lbs. soap powder, \$640, by Colgate-Palmolive-Peet Co., Jersey City; on 10,000 lbs. trisodium phosphate, \$435, by Stevens Soap Corp., Brooklyn; on 2,000 lbs. scouring powder, \$85, by Imperial Products Co., Philadelphia.

## Correction on P & G Stipulation

In reporting a story last month on a stipulation into which Procter & Gamble entered with the Federal Trade Commission, we regret having sacrificed accuracy in the interests of brevity. We said: "Procter & Gamble Co., Cincinnati, has entered into a stipulation with the Federal Trade Commission to cease advertising that "Ivory Soap" is purer or milder than any competitively sold soaps."

Actually the FTC release on this particular stipulation read: "... the respondent company agrees to cease and desist from representing that any test as to the mildness of Ivory Soap as compared with any competitively sold soaps shows that Ivory Soap is the purer soap or otherwise representing that the mildness of a soap is indicative of its purity."

## Toohy New DCAT Chairman

John J. Toohy, of E. R. Squibb & Sons, was elected chairman of the drug, chemical and allied trades section of the New York Board of Trade for the year 1941, at the first meeting of the new executive committee, held November 26 at the Drug and Chemical Club. Rudolph F. Berls, of McKesson & Robbins, Inc., was elected vice-chairman; Robert B. Magnus, of Magnus, Mabee & Reynard, Inc., was elected treasurer, and John C. Ostrom was re-elected secretary.

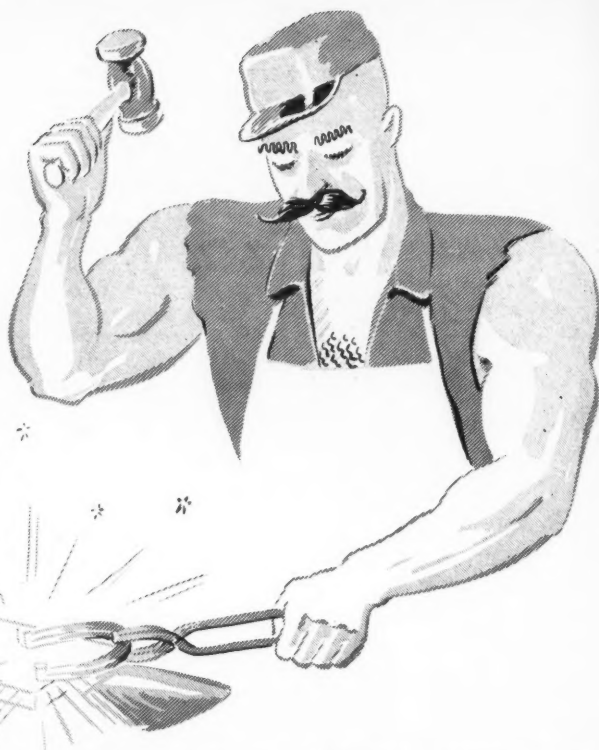
## New General Drug Product

General Drug Co., New York, has just brought out a specially prepared methyl cellulose, "Colloresin 4000," which is said to be water soluble when properly manipulated. With it a jelly can be made which the manufacturers feel is comparable in viscosity with tragacanth jelly for use in the pharmaceutical and cosmetic industries.



# Strike

## WHILE THE IRON IS HOT



**T**HERE'S news in soap today! Turn it to your advantage while it's still "hot." For never before in the history of soap making has there been such powerful sales material as is to be found in that new super soap improver . . . **VICTOR TETRASODIUM PYROPHOSPHATE.**

Today the leading three popular brands of powdered soap *all* contain TSPP . . . because TSPP helps sell soap. This fact has been conclusively proven by extensive consumer tests and surveys conducted by leading soap makers.

Mrs. American Housewife definitely prefers soap containing TSPP . . . for several good reasons. More suds from less soap, for one. A 20% to 30% saving in soap because of powerful water-softening action, for another. Cleaner, whiter rinsing clothes, for a third (unique "peptizing" action suspends dirt particles throughout the washing solution . . . prevents them from becoming enmeshed in the fabric).

Today, there's news in soap. Why not strike while the iron is still hot?

*Send for Research Bulletin*

"The Function of Tetrasodium Pyrophosphate in Soap Mixtures"

### VICTOR CHEMICAL WORKS

141 W. JACKSON BLVD.

CHICAGO, ILL.

## TETRASODIUM PYROPHOSPHATE..BY..

# VICTOR

HEADQUARTERS FOR...  
**pHosphates**



# New Trade Marks

The following trade-marks were published in the November issues of the *Official Gazette* of the United States Patent Office in compliance with Section 6 of the Act of September 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, fee of ten dollars must accompany each notice of opposition.

## Trade Marks Filed

**NI-LAUN**—This in solid letters describing cleaning preparation. Filed by Dorothy G. Fogarty, Ni-Laun Products Co., Providence, R. I., Sept. 5, 1940. Claims use since Apr. 28, 1940.

**SPARKLE**—This in outline letters describing household cleaner. Filed by Federated Foods, Inc., Chicago, Nov. 9, 1939. Claims use since Mar. 31, 1937.

**UNICO**—This in solid letters between words "Quality Products" describing insecticides. Filed by United Co-Operatives, Inc., Indianapolis, July 17, 1940. Claims use since Sept. 1, 1939.

**TRI-SURE**—This in solid letters describing insecticide. Filed by Andrew Wilson, Inc., Springfield, N. J., Aug. 8, 1940. Claims use since Mar. 16, 1938.

**MOP-N-MIX**—This in solid letters describing insecticides. Filed by J. W. Woolfolk Co., Ft. Valley, Ga., Aug. 27, 1940. Claims use since Aug. 8, 1940.

**FLO-RITE** — This in reverse script letters on oval background describing drain cleaner. Filed by Garratt-Callahan Co., Chicago, Aug. 30, 1940. Claims use since Nov. 1, 1933.

**DOCKIT**—This in solid letters describing insecticides. Filed by Charles Horlick, Horlick Products Co., Horlicksville, Wis., Sept. 23, 1940. Claims use since Jan. 10, 1931.

**RE-NEW**—This in outline letters under drawing of an automobile describing cleaning fluid. Filed by

Thomas A. Fox, Re-New Products, Danville, Va., July 10, 1940. Claims use since Dec. 1, 1939.

**FES**—This in fancy letters describing paint cleaner. Filed by Adlai L. Foard, Foard Laboratories, New Orleans, Sept. 4, 1940. Claims use since June 23, 1940.

**STOP DROP**—This in outline letters on drawing of apple describing insecticides. Filed by Sherwin-Williams Co., Cleveland, Aug. 9, 1940. Claims use since June 13, 1940.

**ARMORIZ**—This in solid letters describing dentifrices. Filed by Lilly Dental Corp., Lebanon, Ind., Oct. 2, 1940. Claims use since Aug. 9, 1940.

**ONALIM**—This in solid letters describing liquid soap. Filed by Louis Milano, L. M. Chemical Co., New York, Aug. 23, 1940. Claims use since Aug. 21, 1940.

**VANO**—This in solid letters describing household cleaner. Filed by Chemicals, Inc., San Francisco, Sept. 21, 1940. Claims use since June 1, 1940.

**SWERL**—This in solid letters describing non-saponaceous detergent. Filed by Raymond Soat, Swerl Products Co., Oakland, Cal., Sept. 25, 1940. Claims use since Mar. 15, 1940.

**ISOTON**—This in solid letters describing antiseptic. Filed by Isoton Co., Los Angeles, Sept. 3, 1940. Claims use since Dec. 10, 1928.

**DETHDIET**—This in solid letters describing red squill. Filed by S. B. Penick & Co., New York, Oct. 4, 1940. Claims use since Sept. 26, 1940.

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## Trade Marks Granted

381,389. Liquid Floor Wax. American Disinfecting Co., Inc., Sedalia, Mo. Filed Nov. 6, 1939. Serial No. 425,264. Published Jan. 23, 1940. Class 16.

381,393. Automobile Polish. R. M. Hollingshead Corp., Camden, N. J. Filed Nov. 30, 1939. Serial No. 426,091. Published Feb. 13, 1940. Class 16.

381,415. Rug cleaner. Veeco

Chemical Products Co., Cincinnati. Filed May 15, 1939. Serial No. 419,412. Published June 8, 1940. Class 4.

381,417. Floor wax. Penn Craft Products, Butler, Pa. Filed May 20, 1939. Serial No. 419,630. Published July 9, 1940. Class 16.

381,451. Auto cleaner. Clare Dora Schumaker, Donna-Clara, Superior, Wis. Filed April 15, 1940. Serial No. 430,802. Published July 16, 1940. Class 16.

381,546. Soaps. J. B. Williams Co., Glastonbury, Conn. Filed May 27, 1940. Serial No. 432,419. Published July 30, 1940. Class 4.

381,565. Cleaning preparation. Dr. Andre Laboratory, Milwaukee. Filed Aug. 4, 1939. Serial No. 422,277. Published Oct. 17, 1939. Class 4.

381,598. Washing Powder. National Home Products, Inc., New York. Filed Jan. 13, 1940. Serial No. 427,439. Published April 2, 1940. Class 4.

381,672. Cleaner. Vestal Chemical Co., St. Louis. Filed May 4, 1940. Serial No. 431,574. Published July 16, 1940. Class 4.

381,684. Cleaning powder. Massachusetts Chemical Co., Boston. Filed May 10, 1940. Serial No. 431,777. Published July 23, 1940. Class 4.

381,685. Detergent material. Edgar A. Murray Co., Detroit. Filed May 10, 1940. Serial No. 431,781. Published July 16, 1940. Class 4.

381,778. Shampoo. Jacob L. Abrams, Sparkol Co., New York. Filed March 20, 1939. Serial No. 417,252. Published May 23, 1939. Class 6.

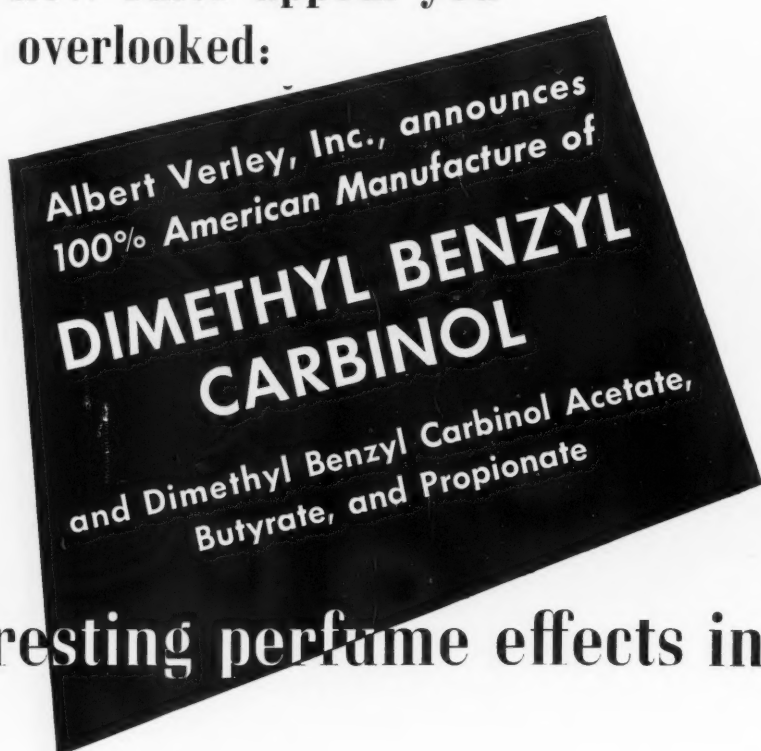
381,795. Automobile Cleaner. Frank E. Patrick, San Francisco. Filed April 23, 1940. Serial No. 431,129. Published July 30, 1940. Class 4.

381,813. Floor wax. Congoleum-Nairn, Inc., Kearny, N. J. Filed May 14, 1940. Serial No. 431,907. Published July 30, 1940. Class 16.

381,881. Disinfectants. Durock Co., New York. Filed May 17, 1939. Serial No. 419,502. Published Aug. 6, 1940. Class 6.

381,882. Cleaning fluid. La Maison Products, Inc., New York. Filed May 19, 1939. Serial No. 419,-

Here is a new sales appeal you  
may have overlooked:



for interesting perfume effects in soap

Heretofore, soap perfumers have overlooked the great possibilities of these extremely interesting materials for soap. Especially useful in Lilac, Jasmin, Rose, Carnation, and Gardenia compositions, these powerful aromatics are now manufactured entirely in our Chicago laboratories, under the supervision of Dr. Albert Verley . . . Because of their exceptional strength and the small quantities required, the prices of these materials are within tolerable limits.

*Write for samples and quotations.*

*Albert Verley* aromatics

ALBERT VERLEY, INC., D. A. Bennett, *President*, 1621 CARROLL AVE., CHICAGO, ILL.  
114 EAST 25TH STREET, NEW YORK • MEFFORD CHEMICAL CO., LOS ANGELES

580. Published Aug. 6, 1940. Class 4.  
381,895. Cleaning agent. Turco Products, Inc., Los Angeles. Filed July 19, 1939. Serial No. 421,753. Published Aug. 6, 1940. Class 4.  
381,901. Shampoo. Gibbs & Co., Chicago. Filed Sept. 9, 1939. Serial No. 423,463. Published July 23, 1940. Class 6.  
381,913. Fungicide. Kremers Urban Co., Milwaukee. Filed Nov. 30, 1939. Serial No. 426,095. Published July 30, 1940. Class 6.  
381,915. Insecticides. Sennewald Drug Co., St. Louis. Filed Dec. 4, 1939. Serial No. 426,230. Published Feb. 13, 1940. Class 6.  
381,920. Insecticidal sprays. Walter Herz, San Francisco. Filed Dec. 28, 1939. Serial No. 426,950. Published July 9, 1940. Class 6.  
381,924. Metal cleaner. MacDermid, Inc., Waterbury, Conn. Filed Feb. 7, 1940. Serial No. 428,317. Published July 9, 1940. Class 6.  
381,928. Toothpaste. Caradent, Inc., New Orleans. Filed Feb. 20, 1940. Serial No. 428,722. Published July 9, 1940. Class 6.  
381,932. Detergent. Turco Products, Inc., Los Angeles. Filed March 2, 1940. Serial No. 429,145. Published Aug. 6, 1940. Class 4.  
382,030. Shampoo. Marrow's, Inc., Chicago. Filed May 11, 1940. Serial No. 431,818. Published July 9, 1940. Class 6.  
382,061. Shampoo powder. Annette Jennings, Inc., New York. Filed May 20, 1940. Serial No. 432,137. Published Aug. 6, 1940. Class 6.  
382,062. Insecticide. Miller Chemical Fertilizer Corp., Baltimore. Filed May 20, 1940. Serial No. 432,146. Published July 30, 1940. Class 6.  
382,063. Soap flakes. Great Atlantic & Pacific Tea Co., New York. Filed May 21, 1940. Serial No. 432,176. Published Aug. 6, 1940. Class 4.  
382,088. Cleaner. Atlas Supply Corp., Newark, N. J. Filed May 28, 1940. Serial No. 432,421. Published Aug. 6, 1940. Class 4.  
382,089. Insecticide. Miller Chemical & Fertilizer Corp., Baltimore. Filed May 28, 1940. Serial No. 432,447. Published July 9, 1940. Class 6.  
382,117. Insecticides. Venro Chemical Corp., Boston. Filed June 12, 1940. Serial No. 432,956. Published July 23, 1940. Class 6.  
382,157. Insecticides. Stanco, Inc., Wilmington, Del. Filed June 25, 1940. Serial No. 433,364. Published Aug. 6, 1940. Class 6.  
382,209. Self-polishing wax. Vernon B. Hunt, Tidy House Products Co., Des Moines. Filed Jan. 17, 1940. Serial No. 427,539. Published Aug. 13, 1940. Class 16.  
382,215. Cleanser. General Chemical Co., New York. Filed March 13, 1940. Serial No. 429,524. Published Aug. 13, 1940. Class 4.  
382,231. Shampoo. Moses L. Heim, New York. Filed April 18, 1940. Serial No. 430,910. Published Aug. 13, 1940. Class 6.  
382,263. Disinfectants. C. B. Dolge Co., Westport, Conn. Filed May 24, 1940. Serial No. 432,301. Published Aug. 13, 1940. Class 6.  
382,292. Floor wax. Scoville, Brown & Co., Wellsville, N. Y. Filed June 8, 1940. Serial No. 432,836. Published Aug. 13, 1940. Class 16.  
382,318. Insecticide carrier. General Chemical Co., New York. Filed June 20, 1940. Serial No. 433,220. Published Aug. 13, 1940. Class 6.  
382,333. Disinfectant. West Disinfecting Co., Long Island City, N. Y. Filed July 2, 1940. Serial No. 433,643. Published Aug. 13, 1940. Class 6.  
382,334. Disinfectant. West Disinfecting Co., Long Island City, N. Y. Filed July 2, 1940. Serial No. 433,644. Published Aug. 13, 1940. Class 6.  
382,410. Farm disinfectant. William J. Finch, Farm Sananize Manufacturing Co., Mason City, Iowa. Filed Mar. 9, 1940. Serial No. 429,428. Published Aug. 20, 1940. Class 6.  
382,423. Washing powder. Specialty Manufacturing & Sales Co., Oaklawn, Ill. Filed April 11, 1940. Serial No. 430,665. Published Aug. 20, 1940. Class 4.  
382,496. Agricultural parasiticides. Atlas Powder Co., Wilmington, Del. Filed June 11, 1940. Serial No. 432,888. Published Aug. 20, 1940. Class 6.  
382,511. Animal repellents. Robert H. Harkins, Nott Manufacturing Co., New York. Filed June 15, 1940. Serial No. 433,058. Published Aug. 20, 1940. Class 6.  
382,539. Disinfectant. Perfex Co., Tacoma, Wash. Filed June 27, 1940. Serial No. 433,446. Published Aug. 20, 1940. Class 6.

### Soap Sales Up in Third Quarter

Sales of soap during the third quarter of 1940 were 1.7 per cent above sales for the second 1940 quarter and 10.3 per cent over the average quarterly sales for the five years, 1935 through 1939, according to figures just released by the Association of American Soap & Glycerine Producers, New York, in its quarterly soap census tabulation. Soap deliveries for the third quarter amounted to 688,311,562 pounds, valued at \$65,754,985, as compared with 644,215,956 pounds, valued at \$64,661,706, for the second quarter of 1940. However, sales were substantially lower than the record third quarter of 1939 when deliveries amounted to 803,766,089 pounds, valued at \$76,999,555.

### Dow Salesmen Meet in Michigan

Over two hundred representatives of Dow Chemical Co. and their wives, from many parts of the United States, Canada and Mexico, attended a four-day sales conference with company executives at the general offices in Midland, Mich., beginning Nov. 13. Leland I. Doan, vice-president and general sales manager presided. Discussions of operations and product development were features of the conference. Leading discussion leaders were: Willard H. Dow, president and general manager; Earl W. Bennett, R. L. Curtis, J. F. Smith, D. T. Prendergast, Jose Polak, N. R. Crawford, L. C. Stewart, M. E. Putnam. Climaxing the four-day program was a trip by special train to Ann Arbor for the University of Michigan-Northwestern football game.



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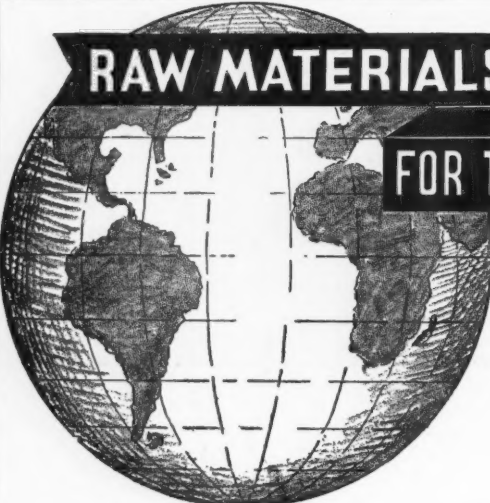
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Corn Oil	Perilla Oil	Neatsfoot Oil	Caustic Soda	Metasilicate
Cottonseed Oil	Rapeseed Oil	Oleo Stearine	Soda Ash	Tri Sodium Phosphate
Palm Oil	Sesame Oil	Stearic Acid	Caustic Potash	Di Sodium Phosphate
Palm Kernel Oil	Soya Bean Oil	White Olein	Carbonate Potash	Chlorphyll
Olive Oil	Teaseed Oil	Tallow	Sal Soda	Superfating Agent

**WELCH, HOLME & CLARK CO., Inc.**  
563 GREENWICH STREET

ESTABLISHED 1838

**NEW YORK CITY**



# Raw Material Markets

As of November 25, 1940

**N**EW YORK—In the market for soap and sanitary chemicals raw materials price movements during the past month were, with practically no exceptions, in an upward direction. Domestic fats and oils and many important essential oils are now being quoted at considerably higher levels than a month ago. The increased activity in the market was attributed in some cases to the fact that buyers had allowed their stocks to fall to low levels before the national election while the increasing consumption of raw materials made replacements more imperative. Other factors in the market were upturns in lard future prices and soybean prices as government estimates of soybean production were revised at lower than previous figures. Offerings of many materials were light owing in part to inflationary talk and uncertainty of replacing those materials which are imported from abroad.

The Bureau of Agricultural Economics, Washington, D. C., in a report on the fats and oils situation, stated that tentative estimates for the calendar year 1940 indicate that production of fats and oils from domestic materials may total more than 8,800,000,000 pounds compared with the previous record total of 8,200,000,000 pounds in 1939. Most of the 8 per cent gain in output of domestic fats and oils in the first nine months of 1940 occurred in lard, inedible tallow and greases, soybean oil and linseed oil. Production of tallow, greases and soybean oil was at record levels, being about 25 per cent higher than 1939.

In the essential oil market, stocks continued to shrink, demand becoming stronger and replacement of foreign materials becoming a more pronounced problem than heretofore. All these tendencies produced steadily rising prices, in some instances to record levels. All grades of carnauba

wax, beeswax and candelilla were advanced to higher price levels. Insecticide materials, gums and chemicals remained substantially the same as last month.

## Animal Fats

Quotations on inedible tallow and greases are currently  $\frac{1}{2}$  cent to  $\frac{5}{8}$  cent higher than a month ago, renderers' extra tallow being  $4\frac{5}{8}$  cents a pound, f.o.b., as compared with  $4\frac{1}{8}$  cents a pound last month, and yellow grease being  $4\frac{1}{4}$  cents a pound, f.o.b., as compared with  $3\frac{3}{4}$  cents as of last month. Statistics on inedible tallow compiled by the B. A. E. show that for the first nine months of 1940, factory production was approximately 23 per cent higher than for the first nine months of 1939. However, approximate total domestic production figures which include quantities produced on farms and by small local butcheries and meat markets, for the same periods, indicated that only about 6 per cent more tallow was produced in 1940.

## Vegetable Oils

Soybean oil, reaching a new high price this period, was the feature of this market. Buying interest was stimulated by a rise in the price of the beans and of competing products. The bean crop for 1940 was estimated by the government at nearly 8,000,000 bushels lower than the 1939 total, or a decrease of about 9 per cent. Exports during the 1939-40 marketing season were the largest on record. Corn oil, cottonseed oil and teaseed oil were also advanced, while palm oil and coconut oil remained at the levels of last month. Babassu remained on a parity with coconut oil. Denatured olive oil was advanced again this period to a level of \$2.40 to \$2.45 a gallon. Not much change was noted in the market for fatty acids, prices remaining steady and buying interest improving somewhat.

## Essential Oils

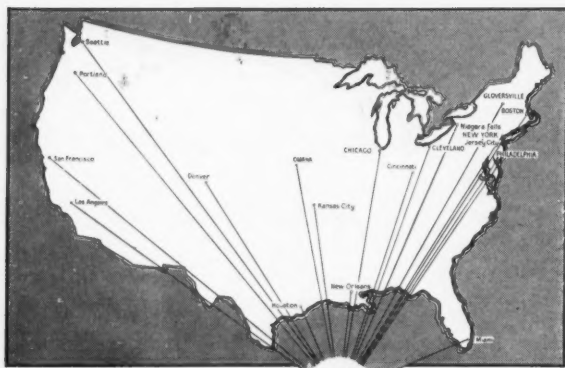
With a few exceptions, quotations on essential oils for the manufacturer of soaps and sanitary supplies, were advanced this period. It was reported that the extremely high prices on many materials is turning consumers to substitutes and domestically produced items which can be used to replace the foreign merchandise. Oil of cassia was advanced 10 cents to a current level of \$1.50 to \$1.55. Anise was advanced 10 cents to \$1.00 to \$1.25 a pound. Natural bergamot oil, Italian lemon oil, and other Italian citrous oils were advanced sharply, increasing the importance of the domestic orange and lemon oil industries. Oil of geranium skyrocketed to more than twice its price of a month ago as the oil became increasingly difficult to obtain in this country. Algerian geranium is now nominal at \$12.23 a pound; the Bourbon material is \$12.00 a pound while the Turkish product was also advanced 25 cents to a current level of \$2.50 to \$2.60 a pound. Other perfume materials higher than last month are: cananga, native, at \$2.25 to \$2.30; oil of fennel at \$2.05 to \$2.15; oil of lavender, U.S.P., at \$5.00 to \$5.25; linaloe at \$1.60 to \$1.65; patchouli at \$5.00; natural peppermint at \$2.60 to \$2.85; spearmint at \$2.25 to \$2.35 and vetiver at \$4.75.

## Red Squill

The only item in the market for insecticide materials to show any important price change this period, red quill was advanced to a current range of from \$1.00 to \$1.50 as the material became increasingly scarce.

## Renew Naphthalene Prices

Barrett Co., New York, recently announced that current contract quotations for industrial crude naphthalene have been extended to cover 1941 shipments.



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## POTASH SOAPS

Liquid Olive Oil Soap Shampoo

Liquid Coconut Oil Soap Shampoo

Liquid Castile Soap Shampoo

Shampoo Base (Olive Oil & Coconut Oil)

Oil Soaps

Scrubbing Soaps

## KRANICH SOAP COMPANY

56 Richards St.

Brooklyn, N. Y.

# SOAPS

# Raw Material Prices

(As of November 25, 1940)

Minimum Prices are for car lots and large quantities. Price range represents variation in quotations from different suppliers and for varying quantities

## Chemicals

Acetone, C. P., drums	lb.	\$ .06½	\$ .07
Acid, Boric, bbls. 99½%	ton	96.00	128.00
Cresylic, drums	gal.	.68	.70
Low boiling grade	gal.	.68	.70
Muriatic, C. P., carboys	lb.	.08	—
Oxalic, bbls.	lb.	.10¾	.12
Adeps Lanae, hydrous, drums	lb.	.24½	.25
Anhydrous, drums	lb.	.26½	.27
Alcohol, Ethyl, U.S.P., bbls.	gal.	5.99½	6.06
Complete Denat., SD 1, dms., ex.	gal.	.29½	.34½
Alum. Potash lump, bbls.	lb.	.04	—
Ammonia Water, 26°, drums	lb.	.02¼	.02½
Ammonium Carbonate, tech., bbls.	lb.	.08	—
Bentonite, 1, works, 325 mesh	ton	16.00	—
Bentonite, 2, works, 200 mesh	ton	11.00	—
Bleaching Powder, drums	100 lb.	2.00	3.35
Borax, pd., cryst., bbls., kegs	ton	58.00	74.00
Carbon Tetrachloride, car lots	gal.	.66½	1.10
L. C. L.	gal.	.73	1.20
Caustic, see Soda Caustic, Potash Caustic			
China Clay, filler	ton	10.00	16.00
Cresol, U.S.P., drums	lb.	.09¾	.10¼
Cresote Oil	gal.	.13½	.14½
Feldspar, works	ton	32.00	35.00
(200 to 325 mesh)			
Formaldehyde, bbls.	lb.	.05½	.06
Fullers Earth	ton	15.00	—
Glycerine, C.P., drums	lb.	.12½	.13
Dynamite, drums	lb.	—	Nom.
Saponification, drums	lb.	.08½	.08¾
Soap, lye, drums	lb.	.07½	.07¾
Hexalin, drums	lb.	.30	—
Lanolin, see Adeps Lanae.			
Lime, live, bbls.	per bbl.	—	2.45
Mercury Bichloride, kegs	lb.	2.24	2.39
Naphthalene, ref. flakes, bbls.	lb.	.07	.07¼
Nitrobenzene (Mirbane) drums	lb.	.08	.09
Paradichlorobenzene, drums	lb.	.11	.13½
Petrolatum, bbls. (as to color)	lb.	.02¾	.07½
Phenol (Carbolic Acid), drums	lb.	.13	.14¾
Pine Oils, bbls.	gal.	.50	.59
Potash, Caustic, solid	lb.	.06¼	.06¾
Flake, 88-92%	lb.	.07	.07½
Liquid, 45% basis	lb.	.03½	.03¾
Potassium Carbonate, solid	lb.	.06½	.06¾
Liquid	lb.	.03	.03¾
Pumice Stone, powder	100 lb.	No Prices	
Rosins (net wt., ex yard, New York)—			
Grade D to H	100 lb.	2.49	2.55
Grade I to N	100 lb.	2.49	2.85
Grade WG to X	100 lb.	3.16	3.40
Wood, ex. dock	100 lb.	1.40	1.90
Rotten Stone, pwd., bbls.	lb.	—	—
Silica	ton	20.00	27.00
Soap, Mottled	lb.	.04¾	.04½
Olive Castile, bars	lb.	.20	.35
Olive Castile, powder	lb.	.26	.36
Powdered White, Neutral	lb.	.18½	.20
Olive Oil Foot, bars, 68-70%	lb.	.09	—
Green, U.S.P.	lb.	.08	.09
Tallow Chips, 88%	lb.	.06½	.06¾

Soda Ash, cont., wks., bags, bbls.	100 lb.	1.10	1.35
Carlots, in bulk	100 lb.	.90	.95
Soda Caustic, cont., wks., solid	100 lb.	2.30	—
Flake	100 lb.	2.70	2.95
Liquid, tanks, 47-49%	100 lb.	1.95	—
Soda Sal., bbls.	100 lb.	1.10	1.30
Sodium Chloride (Salt)	ton	15.00	15.60
Sodium Fluoride, bbls.	lb.	.07	.08¼
Sodium Hydrosulfite, bbls.	lb.	.16	.17
Sodium Metasilicate, ground	100 lb.	3.75	4.80
Crystalline	100 lb.	2.35	3.35
Sodium Pyrophosphate	100 lb.	5.10	5.30
Sodium Silicate, 40 deg., drum	100 lb.	.80	1.20
Drums, 52 deg. wks.	100 lb.	1.40	1.80
Tar Acid Oils, 15-25%	gal.	.22	.27
Triethanolamine	lb.	.19	.20
Trisodium Phosphate, bags, bbls.	lb.	.0225	.0285
Zinc Oxide, lead free	lb.	.06½	.07

## Oils — Fats — Greases

Babassu, tanks, futures	lb.	.05%	Nom.
Castor, No. 1, bbls.	lb.	.10¼	.11
No. 3, bbls.	lb.	.09¾	.10½
Coconut (without excise tax)			
Manila, tanks, N. Y.	lb.	.02¾	—
Tanks, Pacific Coast, futures	lb.	.02½	.02%
Copra, bulk, coast	lb.	.0145	—
Corn, tanks, Mills	lb.	.05½	Nom.
Cottonseed, crude, tanks, mill	lb.	.04%	.05
PSY, futures	lb.	.05%	.06½
Fatty Acids—			
Corn Oil, tanks, Chicago	lb.	.08¾	.08½
Coconut Oil, tanks, Twitchell, Chi.	lb.	.09¼	.09½
Cotton Oil, tanks, Chicago	lb.	.07¼	.07½
Settled soap stock, Chicago	lb.	.02%	.02%
Boiled soap stock, 65%, Chi.	lb.	.03%	.03%
Foots, 50%, Chicago	lb.	.01%	.01½
Red Oil, bbls., dist. or sapon.	lb.	.06¾	.07¼
Tanks	lb.	.06¼	—
Stearic Acid, saponif.			
Double pressed	lb.	.09¼	.09%
Triple pressed	lb.	.12	.12¼
Greases, choice white, tanks	lb.	.04%	—
Yellow	lb.	.04¼	—
Lard, city	lb.	.04%	—
Linseed, raw, bbls.	lb.	.0870	.0970
Tanks, raw	lb.	.0810	.0830
Olive, denatured, bbls., N. Y.	gal.	2.40	2.45
Foots, bbls., N. Y.	lb.	.10	.10½
Palm, Sumatra, cif. New York, tanks	lb.	.02¼	—
Palm, kernel, shipment	lb.	No Prices	
Soya Bean, domestic, tanks, crude	lb.	.05¼	—
Stearine, oleo, bbls.	lb.	.05¾	—
Tallow, special, f.o.b. plant	lb.	.04½	—
City, ex. loose, f.o.b. plant	lb.	.04%	—
Teased Oil, crude	lb.	.17½	Nom.
Whale, refined	lb.	.0910	—



98-100%

CYCLOHEXANE

METHYL  
CYCLOHEXANE

CYCLOHEXANOL

METHYL  
CYCLOHEXANOL

CYCLOHEXANONE

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(As of November 25, 1940)

## Essential Oils

Almond, Bitter, U.S.P.	lb.	\$3.00	\$3.25
Bitter, F.F.P.A.	lb.	3.15	3.50
Sweet, cans	lb.	.70	.75
Anise, cans, U.S.P.	lb.	1.00	1.25
Bay, 55-60% phenols, cans	lb.	1.20	1.25
Bergamot, coppers	lb.	12.00	Nom.
Artificial	lb.	3.50	5.00
Birch Tar, rect., cans	lb.	.90	.95
Crude, dms.	lb.	.27	.28
Bois de Rose, Brazilian	lb.	1.70	1.75
Cayenne	lb.	1.85	1.90
Cade, cans	lb.	.39	.40
Cajeput, native, cans	lb.	.65	.70
Calamus, cans	lb.	8.25	8.50
Camphor, Sassy, drums	lb.	.22	.23
White, drums	lb.	.23	.24
Cananga, native, cans	lb.	2.25	2.30
Rectified, cans	lb.	2.60	2.65
Caraway Seed	lb.	5.50	5.60
Cassia, Redistilled, U.S.P.	lb.	1.50	1.55
Cedar Leaf, cans	lb.	.90	.95
Cedar Wood, light, drums	lb.	.22	.25
Citronella, Java, drums	lb.	.36	.38
Citronella, Ceylon, drums	lb.	.39	.40
Clove, U.S.P., cans	lb.	1.10	1.15
Eucalyptus, Austl., U.S.P., cans	lb.	.65	.67
Fennel, U.S.P., cans	lb.	2.05	2.15
Geranium, African, cans	lb.	12.25	Nom.
Bourbon, cans	lb.	12.00	Nom.
Turkish	lb.	2.50	2.60
Hemlock, tins	lb.	.85	.90
Lavender, 30-32% ester, cans	lb.	5.00	5.25
Spike, Spanish, cans	lb.	1.10	1.15
Lemon, Ital., U.S.P.	lb.	5.00	—
Cal.	lb.	3.25	—
Lemongrass, native, cans	lb.	.78	.80
Linaloe, Mex., cases	lb.	1.60	1.65
Nutmeg, U.S.P., cans	lb.	2.25	2.30
Orange, Sweet, W. Ind., cans	lb.	2.50	2.60
Italian cop	lb.	8.00	Nom.
Distilled	lb.	.90	—
California, expressed	lb.	2.00	—
Origanum, cans, tech.	lb.	1.05	1.45
Patchouli	lb.	5.00	6.00
Pennyroyal, dom.	lb.	3.00	Nom.
Imported	lb.	2.25	2.50
Peppermint, nat., cans	lb.	2.60	2.85
Redis, U.S.P., cans	lb.	2.85	3.10
Petitgrain, S. A., cans	lb.	1.35	1.40
Pine Needle, Siberian	lb.	1.25	1.30
Rosemary, Spanish, cans	lb.	.59	.64
drums	lb.	.54	.59
Sandalwood, E. Ind., U.S.P.	lb.	4.95	5.25
Sassafras, U.S.P.	lb.	1.00	1.25
Artificial, drums	lb.	.75	—
Spearmint, U.S.P.	lb.	2.25	2.35
Thyme, red, U.S.P.	lb.	.80	1.75
White, U.S.P.	lb.	.95	1.95
Vetivert, Bourbon	lb.	4.75	8.00
Ylang Ylang, Bourbon	lb.	7.00	Nom.

## Aromatic Chemicals

Acetophenone, C. P.	lb.	\$1.60	—
Amyl Cinnamic Aldehyde	lb.	1.70	\$2.00
Anethol	lb.	1.10	1.15
Benzaldehyde, tech.	lb.	.45	.50
U.S.P.	lb.	.85	.95
Benzyl, Acetate	lb.	.41	.49
Alcohol	lb.	.63	.68
Citral	lb.	1.40	3.10
Citronellal	lb.	.75	.80
Citronellol	lb.	1.60	1.85
Citronellyl Acetate	lb.	4.00	7.00
Coumarin	lb.	2.75	3.00
Cymene, drums	gal.	.90	1.25
Diphenyl oxide	lb.	.50	.55
Eucalyptol, U.S.P.	lb.	.80	.85
Eugenol, U.S.P.	lb.	1.75	2.00
Geraniol, Domestic	lb.	.60	3.00
Imported	lb.	2.00	3.00
Geranyl Acetate	lb.	1.20	2.50
Heliotropin	lb.	3.00	3.20
Hydroxycitronellal	lb.	2.00	2.50
Indol, C. P.	lb.	32.00	34.00
Ionone	lb.	2.75	3.95
Iso-Eugenol	lb.	2.80	4.25
Linalool	lb.	2.10	3.30
Linalyl Acetate	lb.	1.75	3.00
Menthol	lb.	2.50	3.25
Methyl Acetophenone	lb.	2.50	3.00
Anthraniolate	lb.	2.20	2.30
Paracresol	lb.	4.50	6.00
Salicylate, U.S.P.	lb.	.35	.37
Musk Ambrette	lb.	3.65	3.95
Ketone	lb.	3.70	4.10
Xylol	lb.	1.05	1.20
Phenylacetaldehyde Sp.	lb.	2.10	2.50
Phenylacetic Acid	lb.	1.75	3.00
Phenylethyl Alcohol	lb.	2.30	3.35
Rhodinol	lb.	5.50	10.90
Safrol	lb.	1.00	1.10
Terpineol, C. P., drs.	lb.	.25	—
Cans	lb.	.28	—
Terpinyl Acetate, 25 lb. cans	lb.	.82	.85
Thymol, U.S.P.	lb.	1.55	1.60
Vanillin, U.S.P.	lb.	2.50	2.75
Yara Yara	lb.	1.25	1.55

## Insecticide Materials

Insect Powder, bbls.	lb.	.23	.26
Pyrethrum Extract			
5 to 1	gal.	1.20	1.30
20 to 1	gal.	4.75	5.00
30 to 1	gal.	7.10	7.45
Derris, powder—4%	lb.	.17	.20
Derris, powder—5%	lb.	.23	.26
Cube, powder—4%	lb.	.18	.22
Cube, powder—5%	lb.	.22	.26
Squill, dried	lb.	1.00	1.50
Phosphorus paste	lb.	.25	.62½

## Gums

Arabic, Amb. Sts.	lb.	.14	.15
White, powdered	lb.	.18	.20
Karaya, powdered No. 1	lb.	.14	.33
Tragacanth, Aleppo, No. 1	lb.	3.50	3.75
Flake	lb.	No Prices	

## Waxes

Bees, white	lb.	.36½	—
African, bgs.	lb.	.30	Nom.
Refined, yel.	lb.	.35	.36
Candelilla, bgs.	lb.	.19	.20
Carnauba, No. 1, yellow	lb.	.73	.75
No. 2, N. C.	lb.	.69	.70
No. 3, Chalky	lb.	.62	.64
Ceresin, yellow	lb.	.11	.14½
Paraffin, ref., 125-130	lb.	.0570	—

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# Production Section

A section of SOAP devoted to the technology of oils, fats, and soaps published prior to Jan. 1, 1932, as a separate magazine under the title, *Oil & Fat Industries*.

## Toilet Soap Discoloration

**M**ANY soapers believe that toilet soap discoloration is always due to the perfume and to no other cause, an attitude apparently almost impossible to overcome. It is decidedly unfair to throw the whole blame on perfume.

In a large soap plant spots suddenly began to appear on a toilet soap and the perfume was blamed; but when the perfume was changed, the trouble still persisted. The normal base soap was dried on a band dryer. As an experiment, part of a batch was framed without delay while a second portion was treated in a drying chamber; both portions were milled with the perfume under suspicion. Result: The frame-cooled soap remained flawless while the dried portion gave the usual stains after two months.

Not all soaps treated in drying chambers give the same trouble, but it is probably correct to assume that the quality of the processed fats is the deciding influence. Cottonseed oil in soaps often tends to cause discoloration. Hardened fats and oils frequently contain cottonseed oil and should be handled with due precautions. Linseed oil behaves similarly.

Soap blemishes may be caused by bacteria, and by soap dyes of insufficient purity. Rancid fats containing unsaponifiable matter are liable to cause discoloration.

Metallic impurities are another frequent source of trouble. Small particles of rust from the kettle may

Loss in Weight in Grams per Square Meter per Hour			
Metal	Oleic Acid	Oil, 5% Oleic Acid	Stearins
Copper	2.335	0.627	5.806
Pure Nickel	0.657	no loss	0.098
Aluminum	0.025	no loss	0.022
Iron	0.914	0.141	1.241
V2A Steel	0.013	0.003	0.06

be stirred into the soap. Iron kettles are hard to keep rust-free when common salt is used, which accounts for the present popularity of nickel or Monel metal kettles. Scrupulous cleanliness of brass stamps is of the utmost importance. Metallic impurities can be easily detected with a quartz mercury lamp before the soap stains are visible to the naked eye.

The possibility of formation of metallic soaps is always present when metals come into contact with oils or their free fatty acids. Oxygen promotes the chemical change or may even be a pre-requisite. The metals themselves act as catalysts. Traces of metallic soaps catalyze the oxidation of soaps with the accompanying development of rancidity. Tests showing attack on a few metals partially immersed in molten fats gave results as shown in the table:

Copper is the worst offender, but iron kettles are also easily attacked. Metallic soaps of iron are very sparingly soluble in water so that if present they remain in the finished soaps to cause discoloration.

All this does not imply that perfume cannot give trouble. Perfume ingredients which may discolor

soap include musk, vanillin, indole, eugenol, isoeugenol and limonene. Musk causes a yellow color while the others give rise to brown stains, with the exception of limonene, which bleaches colored soaps. A proportion of 0.2 per cent of stannous chloride is said to inhibit oxidation caused by perfume ingredients. The proper procedure is to add 35 parts of tin crystals to 25 parts of hot water and strain through a fine cloth just before use. Add 6 ounces of this concentrated solution to 112 pounds of dried soap chips in the amalgamator just prior to milling. *Perfumery & Essential Oil Record* 31, 299-300 (1940).

### Continuous Fat Splitting

A continuous process of fat splitting is carried out by introducing an emulsion of water and fat through a tube of relatively small diameter, in which a high pressure and high temperature are maintained. Owing to the fine subdivision of the mass, a more rapid splitting is obtained than with the autoclave process. The tube is heated in an oil bath, and the temperature, pressure, and rate of flow regulated so as to ensure complete separation into two layers at the out-

let of the tube into fatty acid and glycerine-containing lye. A catalyst such as zinc oxide is added. Yields are higher than obtained with an autoclave. Montecatini Societa Generale per l'Industria Mineraria e Chimica. British Patent No. 525,381; through *The Chem. Trade J. & Chem. Engineer* **107**, 218 (1940).

### Aromatic Sulfonic Acids

Detergent compositions containing water-soluble salts of aromatic sulfonic acids have shown a tendency to cake or wet down on exposure to the atmosphere. A non-caking, free-flowing solid detergent is made by forming an aqueous solution or suspension of a water-soluble salt of an aromatic sulfonic acid and a builder of the usual type of alkaline soap builder. The solution or suspension is spray-dried or drum-dried to give a powder or flaked product having a moisture content of 1.5-5 per cent and an apparent specific gravity of 0.1-0.5. The composition should contain at least 20 per cent by weight of builder and the solution used should contain 10-60 per cent by weight of dissolved or suspended material. Monsanto Chemical Co. British Patent No. 523,479; through *Perfumery & Essential Oil Record* **31**, 258-9 (1940).

### Soap Wrapper

A cake of soap is sealed in a sheet of wrapping material which is coated on one side with a heat-sealing composition and on the other side with a coating of vinyl resin resistant to moisture, alkalies and acids. The latter coating is to counteract wastage and deterioration of the soap. Jos. H. Jorling, to the McDonald Printing Co. Canadian Patent No. 391,262.

### Detergents as Disinfectants

A fuller knowledge of the germicidal properties of detergents is needed. The germicidal velocity of action of detergents was found to decrease sharply with temperature. Caustic soda has a concentration coefficient about half that of phenol, but this is reduced on addition of soda

ash, trisodium phosphate or sodium silicate. Trisodium phosphate, though a good detergent for some purposes, is a poor germicide. The presence of 0.1 per cent of milk reduces the rate of disinfection by alkalies considerably—21 per cent for soda ash and 67 per cent for caustic soda. This confirms the necessity for a thorough pre-rinse of apparatus and milk containers to be treated. A. T. R. Mattick and E. Sharpe. *Dairy Sci. Abstracts* **2**, No. 1, 59 (1940).

### Fatty Acid Hydrogenation

In the last few years the production and importation of the sulfated higher alcohols and their salts has become of considerable industrial importance. These products are on the market in the form of sodium lauryl sulfate, with varying amounts of sodium oleyl sulfate etc., produced by hydrogenation of the corresponding fatty acids followed by esterification with sulfuric acid and neutralization. The table shows imports into the United States:

Imports of sulfated fatty alcohols and their salts.

Year	Quantity	Value
1937	33,875	\$ 7,209
1938	154,342	37,110
1939	289,515	69,410

Statistics of domestic production are not easy to arrive at, but for 1938 a United States production was reported of 7,668,458 pounds of sulfated fatty alcohols and sulfated fatty acids. L. A. Stengel and R. Norris Shreve. *Ind. Eng. Chem.* **32**, 1212-5 (1940).

### Fatty Acid Separation

The separation of "solid" or mainly saturated from "liquid" or mainly unsaturated higher fatty acids is made by separation of their mixed lead salts from an alcohol solution, a suitable procedure being as follows:

About 200 grams of the mixed fatty acids are dissolved in 1 liter of 95 per cent alcohol. The solution is boiled and mixed with a boiling solution of lead acetate containing 140 grams of the salt and 1.5 per cent of glacial acetic acid in 1 liter of alcohol. The lead salts which are deposited on cooling at 15°C. over-

night are recrystallized from a volume of alcohol equal to that used in the first instance. The solid acids are regenerated from the recrystallized lead salts, and the liquid acids recovered from the lead salts left on evaporation of the mixed alcoholic filtrates from both operations. Each group of acids is converted into neutral methyl esters by boiling with 4 times its weight of methyl alcohol in the presence of about 2 per cent of concentrated sulfuric acid. After distilling off about 70-80 per cent of the methyl alcohol the esters are taken up in ether and unesterified acid removed by washing with dilute potassium carbonate solution. The conversion into methyl esters is usually 97-98 per cent.

When, as in coconut and similar fats there is a very high proportion of saturated acids of medium molecular weight with a low percentage of unsaturated acids, it is usually better to esterify the whole of the mixed fatty acids and to separate all the lower saturated esters up to  $C_{14}$  or  $C_{16}$  by fractional distillation, and then to hydrolyze the residual esters and apply the lead salt separation to the remaining mixture of higher fatty acids. T. P. Hilditch. *Chemical Products* **3**, 78, 81 (1940).

### Palm Oil Production

Five plantations for growing oil palms existed in the state of Perak in Malaya in 1939. This corresponded to a superficial planting of a total of 18,035 acres, 496 acres more than in 1938. The oil production was 18,046 tons, about 1 ton per acre. In the state of Negri-Sembilan 2,494 acres were planted, an increase of 206 acres. In Jahore 29,465 acres are in production.

In the Dutch East Indies 253,000 tons of oil were produced in 1939 as compared with 226,369 tons in 1938. In Sumatra 27 plants exist for the treatment of palm oil, having a capacity of about 300,000 tons of oil per year. *Bull. des Matieres Grasses* **24**, 110 (1940).



## Effects of Dry Cleaning

A number of textiles were cleaned with various types of solvents under controlled conditions and the properties compared before and after cleaning. The effect of naphtha on the breaking strength as compared with that of carbon tetrachloride and of water is shown in the table:

Conditioned Breaking Strength of Fabric as Per Cent of Original Conditioned Strength (Warp)

	CCl <sub>4</sub> and Soap	Naphtha	Naphtha and Soap	Water and Soap
Cellulose-Acetate Rayon .....	93	93	87	73
Regenerated-Cellulose Rayon....	105	100	91	55
Wool .....	96	92	88	76
Wild-Silk Pongee .....	74	71	32	48
Wild-Silk Shantung .....	68	60	44	63
Silk .....	94	88	75	81
Iron Weighted Silk.....	86	57	57*	52
Lead Weighted Silk.....	71	67	4**	33
Tin Weighted Silk.....	60	48*	56***	24
Tin and Lead Weighted Silk....	48	13**	52***	11
Zinc Weighted Silk.....	83	52	35	22

\* Fabric cleaned 24 times.

\*\* Fabric cleaned 29 times.

\*\*\* Fabric cleaned 10 times.

For cleaning rayon or wool, carbon tetrachloride and soap showed the least weakening effect, water and soap the greatest. For cleaning pongee, shantung and non-weighted silk, carbon tetrachloride and soap also showed the least weakening action but naphtha and soap the greatest. The effect of weighting in silk varies with the metal used as well as with the cleaning fluid. Florence Barr, A. J. Marshall and Rachel Edgar. *Am. Dyestuff Reporter* 29, 599-603 (1940).

## Transporting Whale Oil

The work of the chemist on whale-oil ships is of first importance. One of the first tasks is to examine the whale-oil tanks several hundred cubic meters in size, built into the hold of the ships, to insure cleanliness. The tanks must be free from the dark fuel oil stored in them on the trip out from land, as well as free from rust, water and other impurities. Tanks must also be examined for tightness, to see that sea water and oil from adjacent tanks cannot leak into them. The necessity for absolutely clean and tight tanks is of first importance, since the quality of the whale oil stored in them depends on the absence of such impurities, which may be ex-

ceedingly difficult to remove, should they be present even in small quantities.

Analytical control tests are part of the daily work, 30-40 determinations being made on the average of acid number, color, odor, moisture content and dirt content. According to the results of these de-

terminations, each batch of oil is added to a storage tank containing an oil having the same values. Storage tanks are filled to within 2-3 per cent of their capacity, a small space being left for expansion in case the ship passes through the warm areas and a great change in temperature occurs. A representative sample is examined from each full tank for comparison later to see whether any change occurs in the oil during storage. Exactly the same work and the same checks are made when part of the oil is transferred to a tanker. W. Picker. *Fette und Seifen* 47, 188-191 (1940).

## Water Softening by Resins

Zeolite water softeners have been used for some time to remove cations, but the use of synthetic organic resins for removing both anions and cations is more recent. A resin prepared from *meta*-phenylenediamine, formaldehyde and hydrochloric acid was used to treat solutions containing either chlorides or sulfates. Removal of these salts is ascribed to two simultaneous processes; salt formation involving amino groups of the resin, and adsorption. M. C. Schwartz, W. R. Edwards, Jr., and Grace Boudreaux. *Ind. Eng. Chemistry* 32, 1462-6 (1940).

## Sulfonic Acid Fractionation

To separate components of relatively high detergent and emulsifying properties from other sulfonic compounds of varying emulsifying properties, the mixture is subjected to the action of two counter-flowing immiscible organic solvents. One solvent is water-insoluble and separable from sulfonic compounds by distillation, the other solvent is water-soluble. Two liquid phases are formed with a different solvent predominating in each phase, and different sulfonic compounds in each phase. The two liquid phases are separated and the one with water-insoluble solvent is distilled as a means of recovering the sulfonic compounds present. Shell Development Co. Canadian Patent No. 392,371.

## Rosin Soap Action

Standard washing tests were made with an apartment-type washing machine to determine the detergent value of a number of straight rosin soaps, as well as rosin soaps blended with tallow and coconut-oil soaps. Other tests were made with additions including salt, borax, sodium metaphosphate, tetrasodium pyrophosphate, soda ash, trisodium phosphate and sodium metasilicate. Salt, borax and sodium metaphosphate had little effect on the detergent action of the rosin soap under the conditions of the experiment. Tetrasodium pyrophosphate, trisodium phosphate, soda ash, and sodium metasilicate all increased detergent action, pyrophosphate having the greatest effect—attributed to an increase in the suspending power of the solution.

Soaps made from different gum rosins were equal in detergent action. Blending rosin soap with tallow soap improves the detergent action of the tallow soap in solutions having a soap concentration of 0.25 per cent or more. Washing at 70° C. rather than at 40° C. is favorable to the detergent action of both rosin soap and coconut-oil soap, but the effect of the difference between these two temperatures on the detergent action of tallow soap was negligible. W. D. Pohle, and C. F. Speh. *Oil & Soap* 17, 214-6 (1940).

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# Products and Processes

## Iodine Soap Manufacture

Iodine is chiefly of importance as a tincture, there probably being little benefit to be derived from incorporating it in soaps. Nevertheless a remarkable vogue exists for iodine soaps and cosmetics. The following is a formula for iodized soap:

Potassium Iodide.....	15 grams
Sodium Hyposulfite.....	0.15 g.
Potassium Hydroxide.....	0.15 g.
Rosewater .....	100 cc.
Curd Soap, in shavings.....	180 g.
Alcohol, 95 per cent.....	900 cc.
Lemon Oil .....	4 cc.

The soap is dissolved in the rosewater by heating, and the first three ingredients, with the perfume, are dissolved in the alcohol. The alcoholic solution is then run into the soap solution with constant stirring, the product finally being filtered. This soap is called an "anti-obesity" soap.

Another method is simply to add 5 per cent of potassium iodine to a superfatted soap base, possibly also 2 per cent of rosemary oil. Frank H. Sedgwick. *Soap, Perfumery and Cosmetics* 13, 622 (1940).

## Sulfonium Sulfates

Capillary-active sulfonium sulfates are produced by the reaction of 96-100 per cent sulfuric acid with a primary aliphatic thio ether such as methyl cetyl sulfide and a saturated primary aliphatic alcohol. The sulfonium sulfate is recovered from the reaction mixture by precipitation with ether. A. J. van Peski and J. M. Hoeffelman, to Shell Development Co. U. S. Patent No. 2,204,976.

## Potato Protein for Soap

In the industrial manufacture of potato starch a residual aqueous extract containing potash, phosphorus and nitrogen, has heretofore been discarded. This protein in the waste water can be recovered by blowing gas into the liquid when a foam separates which contains all of the protein, and which can be removed from the protein-free liquid. The protein-

foam material is useful in the preparation of soaps and detergents. W. Ostwald. H. Erbring and A. Siehr. German Patent No. 660,992; through *Deutsche Parfümerie-Z.* 26, 185-6 (1940).

## Cresol Soap

A disinfectant soap for clinical use is made in liquid form and based on cresol for its antiseptic action. The composition is: 120 parts by weight of linseed oil, 27 of potassium hydroxide, 41 of distilled water, 12 of 90 per cent alcohol, and 200 parts of crude cresol. The caustic potash is added in solution in water to the linseed oil with vigorous stirring, the alcohol is introduced and the mixture stirred without outside heat until saponification is complete. The cresol is added and the soap dissolved in it by stirring. *Seifensieder-Ztg.* 67, 400 (1940).

## Soap Stabilizer

A biguanide compound is incorporated in soap in sufficient quantity to effect a substantial increase in the stability of the finished product. Monsanto Chem. Co. Canadian Patent No. 392,337.

## Fat in Kaolin Soaps

The determination of total fats in soaps filled with kaolin or adsorbent clay cannot be made by the usual methods, as the clay causes emulsion formation in ether extracts. A suitable method follows: About five grams of finely shredded soap are extracted in a Soxhlet type of apparatus on a water bath with 80 cc. of absolute alcohol for six hours. The contents of the filter thimble should be stirred from time to time. An apparatus using a porous crucible should preferably be used. The soap is extracted, while the filter holds the kaolin back. If the soap content only is to be determined, the alcohol can be distilled off and the soap dried to

constant weight at 105-110° C. If fatty acids are to be determined, the alcoholic soap extract is used in the usual manner. H. Bornhardt. *Fette und Seifen* 47, 219 (1940).

## Naphthenic Salts in Soap

On the refining of crude petroleum oils, sludges are formed by treating with sulfuric acid and neutralizing with caustic soda. Such products, more or less purified, are known as mahogany sulfonates, petroleum sulfonates, naphthenic soaps or naphthenic acid sludge. One refiner gives for his sodium hydrocarbon sulfonate the empirical formula  $C_{22}H_{23}SO_3Na$ , with a molecular weight of 440. The potential supply of these products is large: such salts are being used in the manufacture of soap. *The Chem. Age* 43, 169-70 (1940).

## Sweating of Soap

A study of the sweating of soap was made by measuring the changes in weight of soap samples under known conditions of humidity. Addition of coconut oil to a tallow soap increases absorption of water in a humid atmosphere. With soaps originally very high in moisture content sweating appears not to start until a humidity of 79-84 per cent is reached. Talc as a filler diminishes the amount of water absorption, while starch and casein fillers increase it at high humidities, although these two materials absorb the moisture taken up so that the droplets do not appear on the surface of the soap, but the whole cake swells. M. N. Goswami, A. R. Choudhury and K. K. Basak. *Indian Soap J.* 7, 9-25 (1940).

## Glyceryl Detergent

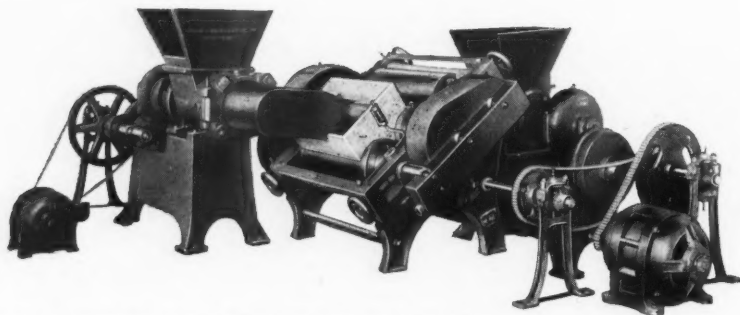
Detergent compounds suitable for laundry use, ore flotation etc. are produced from *beta*-methyl glycerol by esterifying one hydroxy group by a long-chain fatty acid such as coconut-oil fatty acid, and replacing another hydroxy group by a sulfonate radical. F. W. Muncie and K. L. Russell, to Colgate-Palmolive-Peet Co. U. S. Patent No. 2,204,433; through *Chem. Abs.*

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No. 2,216,816, Dentifrice, patented October 8, 1940 by Rudolph A. Kuever, Iowa City, Iowa, assignor to The Pepsodent Co., Chicago. A dentifrice containing as its essential ingredients, sodium metaphosphate and a calcium salt.

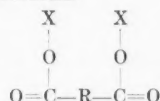
No. 2,216,821, Dentifrice, patented October 8, 1940 by Homer D. Long, Golf, Illinois, assignor to The Pepsodent Co., Chicago. A dentifrice composition consisting predominantly of insoluble sodium metaphosphate and including a suitable percentage as from 1 per cent to 7 per cent magnesium compound chosen from the group consisting of magnesium oxide, magnesium hydroxide, magnesium carbonate, alkaline magnesium silicate, trimagnesium phosphate, and mono-magnesium phosphate.

No. 2,216,842, Germicidal Compounds, patented October 8, 1940 by Carl Johnson, Maplewood, N. J., and William M. Allison, New York, assignors to Oakite Products, Inc., New York. A new organic mercury compound of the general formula  $R.Hg.R_i$ , wherein R represents an aromatic radical and  $R_i$  represents a radical of a higher fatty compound containing a sulfonic group. A new organic mercury compound of the general formula  $R.Hg.R_i$ , wherein R represents an aromatic radical and  $R_i$  represents the methyl-oleamide-ethyl-sulfonate radical.

No. 2,217,358, Insecticide and Fumigant, patented October 8, 1940 by William Coltof, Amsterdam, Netherlands, assignor to Shell Development Co., San Francisco. An insecticide and fumigant composition containing as a toxic principle an alkene alogen thiol containing from 2 to 6 carbon atoms.

No. 2,217,566, Insecticide, patented October 8, 1940 by Lloyd E. Smith, Washington, D. C., dedicated to the free use of the Public of the United States of America. An insecticidal composition comprising a water-insoluble, thio-di-arylamine.

No. 2,217,673, Insecticide, patented October 15, 1940 by Gerald H. Coleman and Clarence L. Moyle, Midland, Michigan, assignors to The Dow Chemical Co., Midland, Michigan. An insecticidal composition comprising as a toxic ingredient an ester having the following formula



wherein R represents a hydrocarbon residue selected from the group consisting of the aromatic, aliphatic, and cyclo-aliphatic radicals and X is selected from the class consisting of the allyl and 2-chloroallyl radicals.

No. 2,219,050, Wetting Agent and Detergent, patented October 22, 1940 by Louis A. Mikeska, Roselle, N. J., assignor to Standard Oil Development Co. A base metal salt of a phosphoric acid ester containing at least one alkylaryl group and a total of 5 to 20 saturated carbon atoms in the alkyl radicals of said alkylaryl groups.

No. 2,219,287, Insecticide and Process of Making Same, patented October 29, 1940 by Robert B. Arnold, Stonewall Courts, Va., assignor to Tobacco By-Products and Chemical Corp., Louisville, Ky. A parasiticidal composition for making a spray, comprising the solid reaction products obtained by reacting a base-exchange polysilicate comprising a complex polysilicate of metal in trivalent form included in the group aluminum, iron, and of metal of lesser valency replaceable by an alkaloid of the group, anabasine, nornicotine, nicotine, with the salt of such an alkaloid, in the presence of a relatively limited amount of water, and drying, said solid reaction products being admixed with dry, unreacted, raw materials for the production of the same class of reaction products as above named, when the composition is added to water.

A parasiticidal spray composition comprising the reaction products of a water-solution of a salt of an alkaloid, selected from the group, anabasine, nornicotine, nicotine, and a base-exchange polysilicate comprising a complex salt of a polysilicate of metal in trivalent form included in the group aluminum, iron, and of metal of lesser valency replaceable by alka-

loid of the class above named, intimately commingled with the simultaneously produced reaction products of a soluble fatty acid salt and a soluble salt of metal selected from the group calcium, magnesium, iron, aluminum, zinc, copper.

## Ammonium Compounds

Quaternary ammonium compounds are obtained by treating aromatic amines containing a saturated or an unsaturated aliphatic radical of high molecular weight with the usual alkylating agents containing alkyl groups of low molecular weight. The products are used as textile agents for wetting and emulsifying purposes. J. R. Geigy A.-G. French Patent No. 842,299.

## Igepon Preparation

Igepon A and Igepon T were prepared by following the general patent procedures by first preparing taurine,  $H_2N(CH_2)_2SO_3H$ , and methyl taurine,  $MeHN(CH_2)_2SO_3H$ , respectively, and condensing each with oleic acid. N. M. Kasatkin and S. V. Bogodanov. *Org. Chem. Ind. (U.S.S.R.)* 7, 108-9 (1940); through Chem. Abs.

## Pyrophosphate in the Laundry

By replacing part of the soap used in the laundry formula by tetrasodium pyrophosphate, a marked improvement in the quality of work is obtained. The pyrophosphate is added to the stock soap solution, replacing 10 per cent of soap. B. J. Kenalty. *Laundry & Dry Cleaning J. of Canada* 20, No. 8, 10 (1940).

## Fish Oil Hydrogenation

A study of the hydrogenation of fish oil showed that the oil should be alkali-refined before hydrogenation, and that the hydrogen should be very pure and dry. An addition of 2 per cent of peanut oil or of tallow to the fish oil before hydrogenation gave a better quality of hydrogenated product in a shorter time. A suitable temperature is 180° C. Soap made from such hydrogenated oil was of good quality and devoid of any fishy odor. N. C. Deb. *Indian Soap J.* 7, 26-32 (1940).

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# New Equipment

**I**F YOU want additional information on any of the items described below or if you want any of the bulletins, catalogs, etc., write to the MacNair-Dorland Co., Inc., 254 West 31st St., New York, mentioning the number of the item.

## 766—White Oil Booklet

A brochure covering the testing and standardization of white mineral oil, U. S. P., prepared by L. Sonneborn Sons, Inc., New York, has just been made ready for distribution. A resume of white mineral oil labeling requirements in accordance with F. D. A. rulings, the technique of the U. S. P. acid test and the importance of white oil stability are among the subjects covered in the booklet.

## 767—Corrosion of Pump Parts

International Nickel Co., New York, has just published a 16-page illustrated booklet containing comprehensive information on corrosion problems in pumping of corrosive liquids. "Practical Pumping Problems and How They Are Solved" discusses in detail the uses of Monel, "K" Monel and "S" Monel for pump parts where there is need for high resistance to corrosion, wear, pitting or scoring. Case histories and performance data are given on pumps in various applications.

## 768—Insecticide Sprayer

A new portable electric 1 h.p. blower-sprayer has recently been put on the market by Breuer Electric Mfg. Co., Chicago. Insecticides can be sprayed a distance of 20 to 30 feet, it is said, in fine mist which will penetrate cracks and crevices. Known as the "Tornado," the sprayer can also be used as a blower and a vacuum cleaner.

## 769—Essential Oils

Dodge & Olcott Co., New York, has just issued a new wholesale price list of essential oils, perfume bases, aromatic chemicals, bal-

sams, gums, oleo resins, insecticide concentrates and other basic materials for the soap and insecticide industries. Notations on uses and characteristics of basic materials are included.

## 770—Perfuming Materials List

A price list and catalog of perfuming materials for fly sprays, liquid soaps, shaving creams, shoe polishes, shampoos, theatre sprays, toilet soaps, flavoring materials for tooth powders and pastes and similar products has recently been published by Magnus, Mabee & Reynard, Inc., New York.

## 771—Jacket Water Coolers

Technical data and construction details on jacket water coolers or heat exchangers for Diesel engines are the subjects covered by bulletin No. W-100, now being distributed by Condenser Service & Engineering Co., Hoboken, N. J. Standard cooler dimensions are listed.

## Soap Prices in Italy

A list of maximum prices for certain commodities, including soaps, have been issued in Italy. Shops selling such commodities must post this list and retailers are forbidden to charge more than the stipulated prices under penalty of fines and temporary closing of the shops. The commodities affected are those most often consumed by the masses. American Consulate, Milan. World Trade Notes on Chemicals and Allied Products, 1940.

## Japan's Soap Exports Up

Japanese exports of soap during the first five months of 1940 set a new record for any similar period with a value of \$1,770,000 as compared with \$1,290,000 and \$700,000 for the corresponding periods of 1939 and 1938. On the basis of the first five months of 1939 and 1940, shipments of toilet soap increased from 2,406,000 to 2,633,000 dozen cakes,

shipments of laundry soap increased from 27,200,000 to 30,000,000 pounds, while shipments of all other soaps declined from 331,000 to 223,000 pounds. An official breakdown by destinations is no longer available but private information indicates that shipments to Latin America do not account for more than 2 per cent of the export total. It has been estimated that 97.5 per cent of Japan's soap exports during the first five months of 1940 went to China and Manchuria.

## Gaskins Joins Columbia

James B. Gaskins recently became associated with Columbia Alkali Corp., division of Pittsburgh Plate Glass Co., Pittsburgh, as a member of the technical service department. Mr. Gaskins is a graduate of Williams and Mary College and has been connected with the following companies: Meigs, Basset & Slaughter, consulting chemists; Central Scientific Co.; J. T. Baker Chemical Co.; Commercial Solvents Corp.; and Will Corp.

## Detroit Rex Moves Office

Detroit Rex Products Co., manufacturers of degreasing machines, solvents and industrial alkali compounds, have recently moved their Chicago office to larger quarters at 1166 West Cermak Rd. An equipment display room has been added and complete warehouse facilities are now maintained in connection with the new offices.

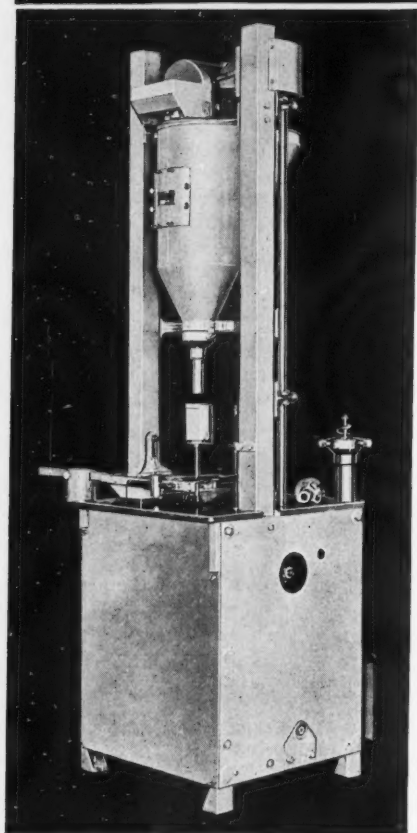
## Elect Vint Advertisers Head

Charles R. Vint, president of Colgate-Palmolive-Peet Co., Ltd., of Toronto, Canada, was recently elected president of the Association of Canadian Advertisers at the annual meeting of the organization in Toronto.

## Chem. Salesmen's Meetings

A talk on national defense as it may affect the American chemical industry will be a feature of the luncheon meeting of the Salesmen's Association of the American Chemical Industry, Inc., to be held at 12:00 noon, December 11, at the Chemist's Club, New York.

# "S & S" FILLING • PACKAGING • WRAPPING EQUIPMENT



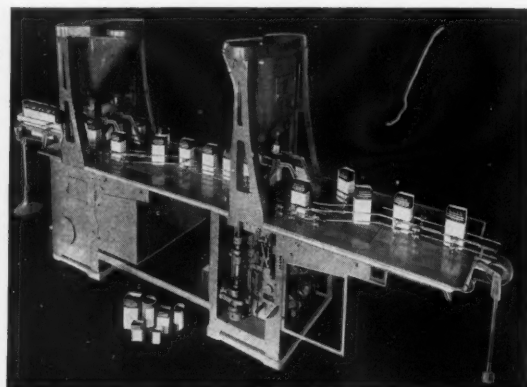
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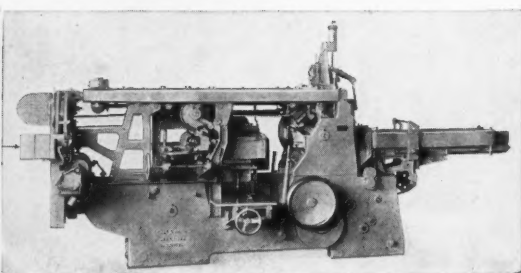
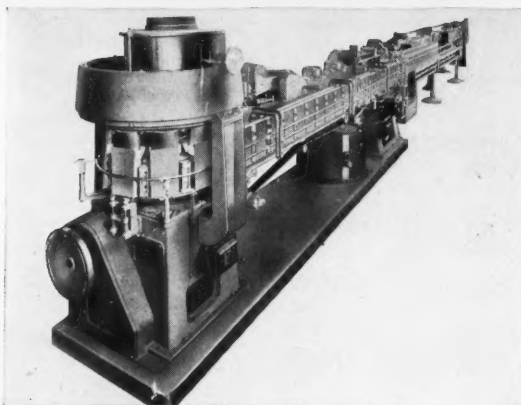
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### Acid Removal by Adsorption

Experiments in which known amounts of fatty acids were added to neutral oils showed that even large amounts of free fatty acids can be removed from the oil by adsorption with alumina cream or silica gel under suitable circumstances. The method can be applied in the purification of commercial fats, the fat or oil being dissolved in an organic solvent such as trichloroethylene before the adsorption treatment. There are probably some fats where the suggested method will have advantages over the older methods of distillation or neutralization. H. P. Kaufmann and O. Schmidt. *Fette und Seifen* 47, 294-6 (1940).

### Dialysis of Soap Solutions

Sodium laurate solution of 0.045 Normal concentration was dialyzed under the same conditions as potassium acetate solution, the latter serving as a basis for comparison. The curves showing an increase of concentration with time of dialysis were similar in the two cases up to a certain concentration when the curve for sodium laurate fell below that for potassium acetate. The method is suggested for study of the nature of soap solutions. Ole Lamm. *Kolloid-Z.* 91, 275-9 (1940).

### Study Tall Oil Composition

Although various reports on tall oil have been made, its exact chemical composition has never been made clear. It has now been determined that the fatty-acid mixture in tall oil consists of only three components, oleic acid, linoleic acid, and linolenic acid, with the amount of the last-named acid not exceeding 4-6 per cent. A natural fatty-acid mixture from tall oil gave the same absorption spectrum as that of a mixture made up from pure fatty acids in accordance with the analysis. Whether several different abietic acids are present still remains to be determined. High-vacuum distillation methods were tried for the separation of resin acids from the fatty acids, but with the result that the resin content in a 60 per

cent distillate was reduced from 38 per cent to only 20 per cent. The method as applied appeared to be of little value. Purified tall-oil fatty acids ordinarily contain about 4.5 per cent of resin acids. H. Neisen. *Fette und Seifen* 47, 296-300 (1940).

### Titer Determination

A simple method for determining the titer of fats gives accurate results in 30-5 minutes. To 50 cc. of the fat mixture, heated on a water bath, add 40 cc. of caustic soda solution of density 1.32 in 40 cc. of hot alcohol. Continue heating, with stirring, until saponification is complete. Dissolve the sodium soap in 70-5 cc. of hot alcohol, decompose with 80 cc. of sulfuric acid of density 1.18-1.21, and siphon off the dilute sulfuric acid. Wash the fatty acids with water, transfer to a porcelain evaporating dish and dry over a free flame at 105-10° C. Filter and determine the solidification point as usual. T. Loseva and B. Kolkov. *Masloboino Zhirovye Delo* 16, No. 1, 27-8 (1940); through *Chem. Abs.*

### Saponifying Agent

The corrosion of iron drums by naphthenesulfonic acids can be avoided by neutralization of the acids with caustic soda. When required for the saponification of fats, the sodium naphthenesulfonate is decomposed with 25 per cent excess of sulfuric acid and salted out with 10-15 per cent of solid sodium chloride, based on the weight of the neutralized contact acid. M. Bespyatov. *Masloboino Zhirovye Delo* 16, No. 1, 17-18 (1940); through *Chem. Abs.*

### Filter Aid for Naphtha

A filtering medium for dry cleaners' naphtha contains at least 40 per cent of a bleaching agent from the class consisting of activated clay, bone black or charcoal, intimately admixed with at least 40 per cent of a finely divided material from the class consisting of pyrophyllite, talc, amorphous silica, fired clay, acid-treated clay or fuller's earth. Wm. H. Alton, to R. T. Vanderbilt Co., U. S. Patent No. 2,202,806; through *Chem. Abs.*

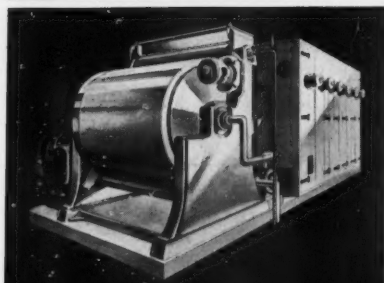
### Soap—Cartoned or Wrapped?

(From Page 31)

cause a paper wrapper to disintegrate or become discolored if contact were prolonged unduly. This effect is particularly pronounced in a humid atmosphere. It may also be one reason why certain medicated soaps are packaged in a carton without the usual inside wrapper of paper, glassine, or cellophane. The disintegration of the inside wrapper has frequently been observed in the case of a medicated soap in which the inside wrapper is made of cellophane and the package has apparently lain for a long time on the drug store shelf. The cellophane becomes extremely brittle and practically falls to pieces as the package is opened. Packing in a carton largely overcomes such difficulties.

In those cases where turn-over of the specialty product is fairly slow, the package may lay around on the shelves of a store for several months or a year before it is sold. The packages must naturally be able to withstand shop-wear without making it obvious that they have been in stock for a long time. As a carton is stronger than paper and will stand more handling without showing it, this may be another reason why cartons are preferred for specialty soaps. In the case of tar soaps, foot soaps, germicidal soap, or similar products, the carton is often made to serve as a container for the soap after it has been used but not used up completely. Soaps like these are relatively expensive and many people, not wanting to waste the cake by leaving it around in a soap dish, return the soap to the carton after use. A cardboard carton is not as suitable for this purpose as a tin container, but nevertheless represents a distinct improvement over a simple wrapper.

Even if it were not for the above reasons many companies would still use cartons for their specialty soaps as a measure of economy. In many cases it is not profitable for a company to install wrapping or cartoning machinery for specialty soaps with a slow turn-over. Speed of packaging is no particular advantage in



In producing flakes for granulated soaps, toilet cakes or packaging, high speed output can often be an item of great saving. With the New Proctor Flake Soap System, from the hot liquid soap in the kettle or crutcher to the dried flakes requires only 6 to 14 minutes and capacities may be obtained from 750 to 6000 lbs. per hour, according to flake thickness, character of soap, etc. At this stepped-up production, quicker deliveries are assured and there are tremendous savings in floor space and equipment. Complete details are contained in a new 16-page illustrated catalog, that is yours for the asking.

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## NEW PROCTOR *Flake Soap* SYSTEM

### SOAP MILLS OF LARGE PRODUCTION

**Better See Them Mr. Manufacturer**

**LEHMANN SOAP MILLS ARE DESIGNED AND BUILT TO DO MANY DIFFICULT JOBS.**

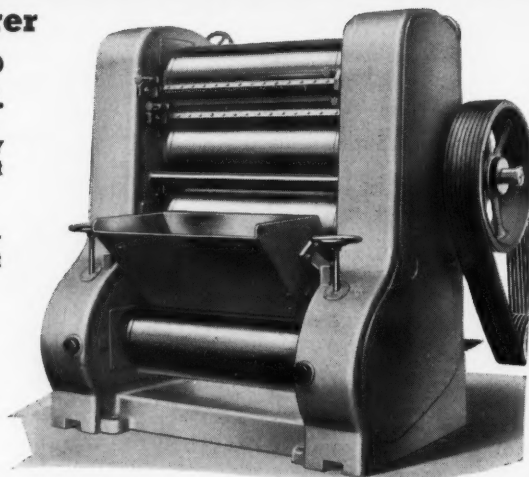
**Soap Flake Milling.** Produces an exceptionally thin flake of uniform character and brilliant transparent appearance.

**Toilet Soap Milling.** Provides automatic one-operation mixing and largest possible output of finest milled soap.

**STANDARD FEATURES.** Chilled Iron Rolls of best quality electric furnace production; 15¾" diameter by 41" milling length; oil flooded machine-cut helical steel and bronze gears for rolls and drive shaft, all running in dust-proof casings; roller shafts mounted in SKF self-aligning pendulum roller bearings, grease gun fittings provided throughout; scraper knife serrated or straight, as required.

**TWO-LANE HOPPER.** The feed hopper can be arranged with two milling lanes. Can also be furnished with a **built-in intermediate plodder**. A large single-feed hopper may be substituted for the two milling arrangement on the small hopper illustrated.

**DIRECT MOTOR DRIVE.** In illustration the gear guard has been removed to show manner of driving directly from motor by means of V-belt drive. May be had in right hand or left hand drive, as desired.



• **LEHMANN NO. 9245A FOUR ROLL SOAP MILL** corresponds in detail and operating features to the No. 9125A Five Roll machine shown above. It is useful for pre-milling or operating in tandem with the five-roll machine.

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many instances, so cartoning is often done by hand. It is far simpler to pack into cartons by hand than it is to wrap with paper or package in any other way. Stretch-wrapping with cellophane is also a simple method of packaging which requires very little equipment, but is generally used only for "gift" soap.

The high initial cost of cartoning equipment is possibly an obstacle to the wider use of cartons by soap manufacturers. A new cartoning machine of the most modern construction costs in the neighborhood of fifteen or twenty thousand dollars as compared with wrapping machines which are priced roughly between five and ten thousand dollars, depending on the number of operations, speed, and make. Generally speaking, the costs of cartoning may run from 50 per cent to 100 per cent more than the costs of wrapping the same article with paper. Thus for soaps in the highly competitive low-priced field where an increase of even a tenth of a cent in cost per unit might make a great difference in the margin of profit, cartoning is justified only if its advantages are considered sufficiently marked to increase customer acceptance. The fact that the makers of at least two of the more popular brands of toilet soap in this low-priced class do consider that cartoning is justified, would seem to indicate that this type package does present advantages over paper wrapping, especially from the sales angle.

## White Soaps

(From Page 28)

the color of the spent lyes is not too dark, otherwise the soap will be affected. Care should be taken, when salting out the soap, to see that the salt or brine is clean. All metals in contact with the salt or brine should be of corrosion resistant metal, as salt is the most corrosive item used in the manufacture of soap. A "Y" strainer on the brine line is also recommended. If recovered salt from the glycerine evaporator is used at all it should be used on the first wash, so that any glycerine or coloring may be washed out on subsequent washes.

If scrap soap is used at all in the kettle, it should be only the very cleanest possible.

Some control of the color is possible by the method of finishing the soap. It is known that a closed finish will yield a brighter and lighter soap than an open finish. However less neat soap will be obtained from a closed finish and of course more nigre. The soap maker's judgment on this matter will probably depend upon the type of soap being made. Further improvement is possible by making two finishes. The procedure in this case is to make a regular finish after which it is allowed to settle out its nigre, then the nigre is pumped away from the bottom of the kettle and the remaining neat soap is grained out and refinished, thus the new neat soap made is of the very highest order. The nigre which was pumped away can be used for other or more white soaps.

After the finished soap leaves the kettle and is pumped either to the crutchers for framing or to the drying machines for flakes as the case may be it should be filtered to remove any possible particles that are foreign. There are available several methods of filtering but in the writer's opinion the cartridge type, that is continuously cleaning, is by far the most desirable. A possible source of trouble, after the soap is pumped, may be due to dust and dirt-laden air, particularly the large volume of air passing through the drying machines. If this trouble is encountered, then the air should be filtered through spun glass filters or similar equipment.

The manufacturer of white soaps using the cold-made or semi-boiled processes will have to be more critical of his raw material selection than the one using the full-boiled method. The reason, of course, is that he cannot avail himself of the cleansing action of the "washes" employed in the full-boiled method. Both the cold-made or semi-boiled method leave unsaponified fats in the soap that can and often do cause discoloration, and certainly a stabilizer is indicated for soaps thus made.

Regardless of the method employed in making the soap if it is of the frame-and-cut type, there will be the drying operations to watch. Excessive heat in drying must be avoided if darkening is to be prevented. If the final product is a white flake to be packaged, then the remarks up to this point probably have covered the procedure, except that reasonable care should be exercised in selecting the carton and taking care that proper gluing is done. The manufacturer of a soap cut from framed stock has only the pressing and wrapping to do now and these operations will correspond closely to those of milled soaps, so we can consider them together.

**W**HITE milled soaps have for their base a suitable white flake or compact pellet of soap containing about 12 to 15 per cent moisture. The process of converting from this form to the finished product will expose the soap to several operations that may cause discoloration. Much has been written about the effect of perfumes on white soaps and the subject has been clearly presented in the 1940 *Soap Blue Book*. However in spite of all that is published, new conditions will present themselves, so the manufacturer must be prepared to do some investigating on his own. The necessary equipment for making small runs of bars is usually available and the manufacturer can quickly make up trial runs. At this point the element of aging enters the picture and there is no 100 per cent substitute for time. The manufacturer can create artificial conditions that in a short time will give him a good idea of what he may expect from natural aging. To create these conditions some manufacturers use a small thermostatically controlled electric oven, inside of which is installed a mercury vapor tube capable of emitting ultra violet light. Samples of soap placed within this oven, held at about 90 degrees Fahrenheit, and exposed to the action of ultra violet rays for a period of seven days, will indicate whether or not the product will stand up when allowed to age naturally.



It is common practice to add some white inert material to toilet soap base when milling. The purpose of adding these inert materials is to cover up the natural translucency of the soap. It also will make the soap whiter and more attractive if the inert material is white. The most commonly used materials are zinc oxide and titanium dioxide, most expensive of the two. When titanium dioxide is used instead of zinc oxide approximately 30 per cent of the quantity of zinc oxide is sufficient, a point worth considering when specifications for the amount of alcohol insoluble are a factor. Excessive amounts of zinc oxide or titanium dioxide will cause the soap to have a chalky appearance and should be avoided. When these materials are pure and purchased from responsible manufacturers, discoloration from this source may not be feared.

There is not much chance for discoloration during the milling and plodding operations if correct temperatures are maintained. Non-corrosive metals are desirable for the barrel and screen of the plodder. Brass forming plates and press dies are giving away to non-corrosive nickel bearing alloys. The use of anti-oxidants has been of very great assistance in preventing discoloration, but should not be expected to allow indiscriminate addition of metallic salts as used in germicidal soaps, or super fatting.

Let us suppose that up to this point, the pressing job completed, that we have observed every precaution and now have the perfect product. It has been quite a job and we are proud of it, but there still remains the task of wrapping and piling up in stock. Many are the tons of white soap that have been spoiled after wrapping and packing, when a little care would have prevented it. It is customary to have an inside wrapper of waxed or oiled paper, then the outside wrapper and often a stiffener between the inside and outside wrapper.

The presence of ground wood in paper used for the wrapping of white soaps is most certainly to be

avoided, for if it be present discoloration of the paper and the soap is sure to occur. Tests should be made of each lot delivered. There are a number of tests employing different reagents, which, when applied to the surface of a paper show characteristic colors if ground wood is present. A few of the principal test solutions and methods for the presence of ground wood are:

(1) *Nitric Acid*—Concentrated nitric acid applied to the surface of a paper which contains ground wood will give a deep yellow color.

(2) *Aniline Sulfate*—A 10 per cent aqueous solution applied to paper containing ground wood will produce a yellow coloration. The solution is prepared by dissolving 5 grams of aniline sulfate in 50 C.C. of distilled water and one drop of concentrated sulfuric acid to the solution. This solution does not keep readily and should be prepared fresh quite often and should never be used unless it is colorless. Decomposed solutions will take on a violet color.

(3) *Phloroglucinol*—Prepare the solution by dissolving one gram of phloroglucinol in 50 C.C. of water and add 25 C.C. of concentrated hydrochloric acid. This solution keeps fairly well when protected from light and air. When applied to the surface of a paper containing ground wood a bright red-purple color appears. Sometimes if other materials are present such as jute or unbleached sulfite a pink color may appear and be mistaken for a trace of ground wood.

It should be remembered that all of those tests are of questionable value in estimating the quantity of ground wood present, but are acceptable as a positive or negative test. Any tests leaving doubt should be accepted or rejected after microscopic examination.

Adhesives for gluing the ends of wrappers should be preferably light or white color and necessarily if the wrapper is light or white in color. Adhesives should be applied as heavy bodied as possible to prevent unnecessary penetration and possible discoloration.

The inks used on soap wrappers are important too. Very often the whole job will be spoiled by the use of inks not acceptable. They should be absolutely fast to soap, moisture and alkali. A good test for fastness of the inks and also paper reaction can be quickly conducted. Secure a large size cake of fresh white laundry soap, the kind that contains plenty of moisture and silicate of soda. Split the cake with a knife the long way, so that you have the greatest area of fresh moist soap available. Place between the halves thus formed, a sample of the wrapper to be examined. Apply pressure and put away overnight, and examine the next day. This is a very severe test, but if the wrapper and ink come out O.K. or if only slight fading is shown, then you need not fear trouble on the job. Apply the same test to the small 3 and 4 cake boxes also, because they can make trouble, especially when they in turn are packed in a large carton.

The use of metal seals on fancy wrapped soap, may cause discoloration if care is not taken. Samples should be put away and later examined for discoloration before proceeding into regular production.

Care should be taken when piling the filled cartons in stock. It is not advisable to make great solid piles because they exert too much pressure on the bottom cartons and do not allow the cartons inside of the pile sufficient access to air, and they thus remain moist for long periods of time.

This briefly is the story of white soaps as we know them today. We have come a long, long way and no doubt will continue the progress. There is just one more thing that the writer cannot dismiss easily. We have made all of this progress, these improvements, and have made a piece of soap to be admired. We feel pretty good, but then we walk into a drug or grocery store. There in the middle of a heap of all kinds of other brands, mixed in with a dozen other odors, all displayed in a beautiful 1941 model galvanized wash tub, rests the product of all of these things herein mentioned, for sale *cheap!*



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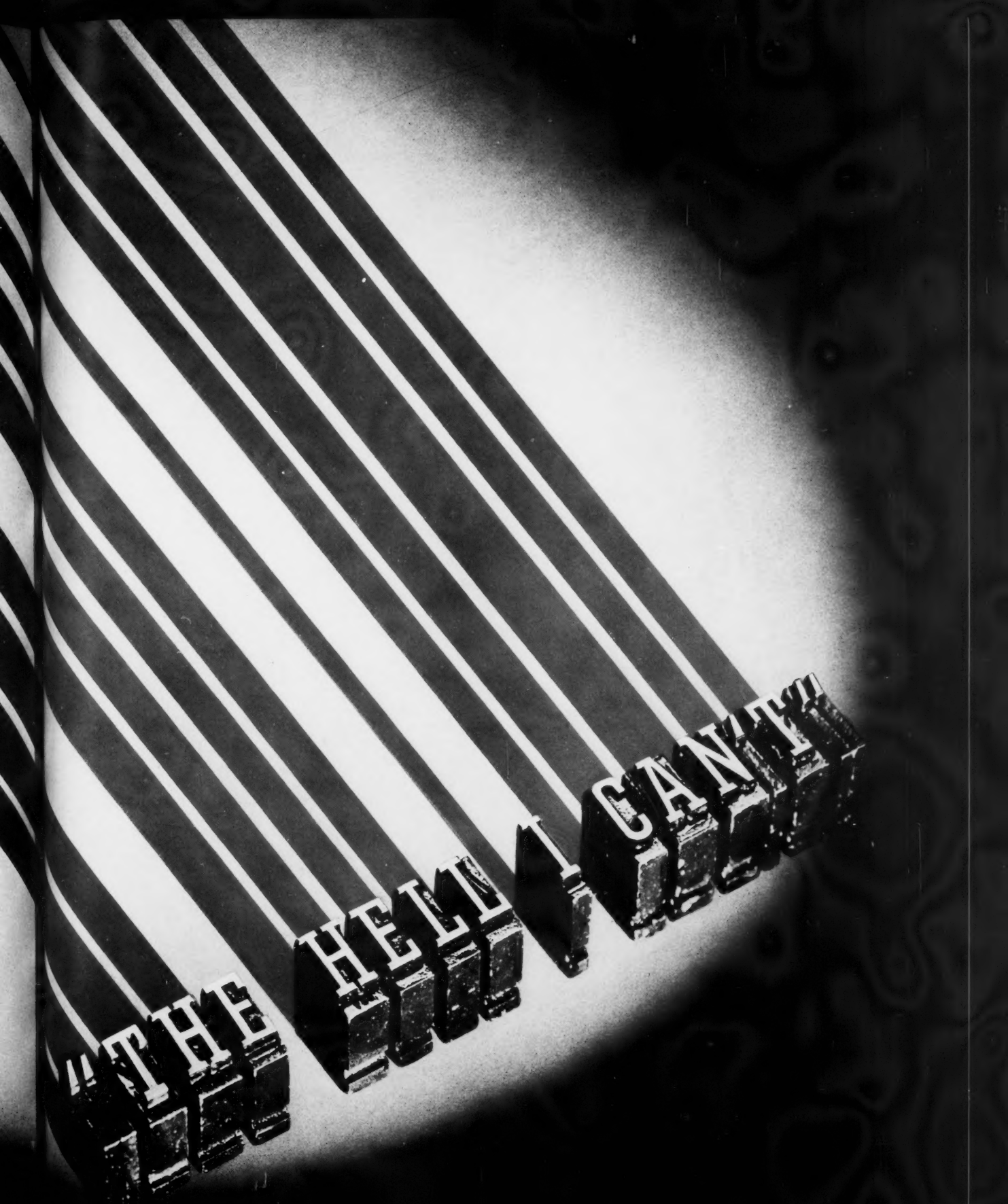
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# PYRETHRUM EXTRACT NO. 20

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**A BETTER PYRETHRUM CONCENTRATE**

**MADE BY AN IMPROVED METHOD**

**CLARITY** Crystal clear and unusually free from the colloidally dissolved waxes, resins, etc., which detract from the appearance of finished sprays and add to the danger of sedimentation and staining.

**STABILITY** More stable even to light than most other concentrates due to the fact that the Pyrethrins have never been subjected to heat. Contains no stabilizing agents.

**COLOR** A clear dark amber, apparently lighter than most concentrates because of the comparative absence of waxes and resins. Finished sprays are a bright light amber.

**ODOR** Practically odorless. No extraneous odor but a faint and pleasing natural smell of Pyrethrum.

**PYRETHRIN CONTENT** Guaranteed as not below the usual standard 2.00 grams Pyrethrins per 100 c. c. by the Seil method.

**KILL AND KNOCKDOWN VALUE** At least equal to any concentrate of the same Pyrethrin content ever offered.

**PRICE** Fully competitive with other concentrates of similar reliability and equal Pyrethrin content. No premium demanded for better quality.



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# ANOTHER STEP FORWARD in PYRETHRUM MANUFACTURE

**I**N announcing D & O PYRETHRUM EXTRACT No. 20 ODORLESS as a superior quality concentrate made by a new method offering obvious advantages over those used heretofore, we do so with full recognition of the fact that quality standards were already high.

Even so, improvements were possible, and we have made them, although not without overcoming obstacles previously regarded as insuperable.

D & O PYRETHRUM EXTRACT No. 20 ODORLESS is made by a **completely cold** process. The theoretical advantages of this have been well understood, though such a process was considered impractical if not impossible. The practical result is a Pyrethrum concentrate definitely superior in several important respects to any heretofore manufactured on a commercial scale.

In clarity, color, odor, and stability, D & O PYRETHRUM EXTRACT No. 20 ODORLESS marks a new and close approach to perfection. In other respects it is at least the equal of any other.

## DODGE & OLCOTT COMPANY

180 Varick Street

New York, N. Y.

BOSTON : CHICAGO : PHILADELPHIA : ST. LOUIS : LOS ANGELES

*Plant and Laboratories . . . Bayonne, N. J.*

## TAR ACIDS

*Cresol  
Cresylic Acid*

## TAR ACID OILS

**CRESOL**—U.S.P. with very close cut distillation range and light color, for pharmaceutical purposes—Meta-Para Cresol with high meta cresol content—Resin cresols close cut to wide boiling with guaranteed meta cresol contents and clean odor.

**CRESYLIC ACID**—Many distillation ranges appropriate for all established uses—pale color—clean odor—total impurities besides water not exceeding one half of one per cent.

**TAR ACID OILS**—Frozen crystal free at 0°C.—good emulsion-forming properties—low benzophenol content—appropriate for low to high coefficients with tar acid contents as required.

**KOPPERS COMPANY, Pittsburgh, Pa.**

PRODUCTS OF  
THE WHITE TAR COMPANY  
OF NEW JERSEY, INC.,  
a Koppers subsidiary

### REFINED NAPHTHALENE...

Crushed, Crystals, Powder, Lump, Chips, Flakes. For use in manufacture of deodorizing blocks, moth preventives and other insecticides. Also Naphthalene in Balls, Blocks, Tablets.

### COAL TAR DISINFECTANTS...

Co-efficients 2 to 20 plus, F.D.A. Method.

### CRESOL AND CRESYLIC DISINFECTANTS

### PINE OIL DISINFECTANTS

### PINE OIL DEODORANTS

### CRYSTAL AND BLOCK DEODORANTS

### LIQUID INSECTICIDES

### DEODORIZING BLOCKS...

Pressed Naphthalene or Paradichlorobenzene. Various sizes and shapes. Perfumed and plain. Bulk industrial packages, retail packages.  
Write to Kearny, N. J.

### KOPPERS CHEMICALS AND SOLVENTS

Benzol (all grades)...Toluol (Industrial and Nitration)  
...Xylol (10° and Industrial)...Solvent Naphtha (In-  
cluding High Flash)...Phenol (82% and 90% Purity)  
...Cresol (U. S. P., Resin and Plasticizer Grades)...  
3° Meta Para Cresol... Cresylic Acid (Disinfectant  
Grades—99%, pale, low-boiling. Insecticide Grades—  
99%, pale, high-boiling)...Naphthalene... Shingle  
Stain Oil... Refined Tars... Tar Acid Oils... Pitch Coke  
...Industrial Coal Tar Pitches... Flotation Oils... Creosote

### OTHER KOPPERS PRODUCTS

Benzol Recovery Plants...Naphthalene Removal Appa-  
ratus...Sulphur Recovery Apparatus...Phenol Removal  
Apparatus...By-Product Recovery Apparatus... Coal  
Tar Roofing Materials... Waterproofing and Damp-  
proofing Materials... Tarmac Road Tar Materials...  
Bituminous Base Paints... Coal... Coke... Fast's Self-  
aligning Couplings... Piston Rings... Pressure-treated  
Lumber

# KOPPERS

---

# The Effective Deodorizer

# NEUTRACENE

## FOR FLY SPRAY

\$1.25 Per Pound

Use 1/16 ounce to one gallon of your spray to neutralize bad odor . . .

Then add 1/8 to 1/4 ounce of any one of the following top bouquet odors . . .

### ODOCENE

Reliable specialty of proven merit. Pleasant type odor of enduring character.

\$2.25 PER POUND

### PETROMA

Floral type, having a pleasing Wisteria background.

\$2.50 PER POUND

### FLOCENE

Floral type of attractive character but giving no definite flower impression.

\$4.50 PER POUND

### VITACENE

Possesses a clean, refreshing scent. New modern odor. Remarkable coverage without leaving a definite perfume.

\$2.50 PER POUND

### VANASPRA

Produces the definite Vanilla types of odor. Suitable for use in bakeries, confectioners, restaurants, etc.

\$1.65 PER POUND

### FRUITSPRA

This odor gives results in harmony with the odors around fruit and vegetable stores where perfume would not be desirable.

\$4.50 PER POUND

Order a trial quantity of any of these "Aromatic" products. Make your own tests—YOU be the judge.

# AROMATIC

## PRODUCTS, INC.

15 East 30th Street, New York City — Factory: Springdale, Conn.

ATLANTA  
223 Spring St., S.W.

PITTSBURGH  
727 Grant Building

CHICAGO  
205 West Wacker Drive

DALLAS  
5207 Monticello Ave.

MEMPHIS  
364 South Front St.



*"That's what  
I call  
Quality"*

TO MANUFACTURE a better spray, use a better base — a quality base. Use Atlantic Ultrasene.

This fine product is backed by the technical skill and knowledge of The Atlantic Refining Company. It leaves no oily residue, evaporates quickly and is practically odorless. It is a *quality* product in every sense of the word.

For full particulars and free sample, write The Atlantic Refining Company, Technical Sales Division, 260 South Broad Street, Philadelphia.

**ATLANTIC ULTRASENE**  
A better base for better insecticides



**DO  
YOU  
MAKE..**

**GLASS CLEANERS**.....☐

**LIQUID SOAPS**.....☐

**LIQUID POLISHES**.....☐

**WAX POLISHES**.....☐

**EMULSIFIED POLISHES**.....☐

**DEODORANT BLOCKS**.....☐

**FLY SPRAYS**.....☐

**THEATER SPRAYS**.....☐

*Come to headquarters for odors, deodorants and perfumes for these products—Givaudan-Delawanna, Inc. There is a Givaudan aromatic for every type of polish, insecticide, disinfectant and spray. Let Givaudan's staff help you secure effective, economical odor results.*

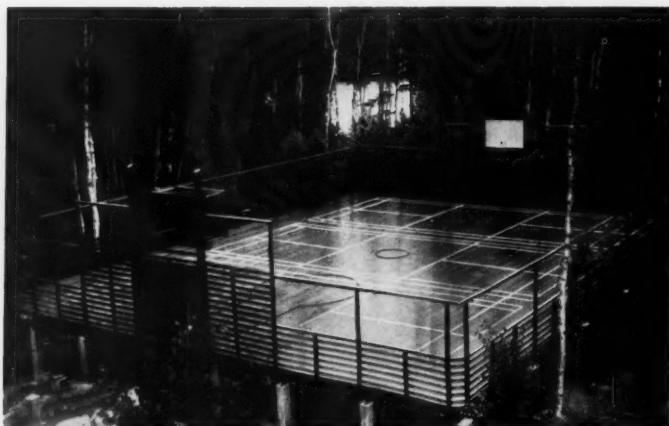
**GIVAUDAN DELAWANNA, INC.**  
330 WEST 42nd STREET, NEW YORK, N. Y.

BRANCHES:	Philadelphia	Los Angeles	Cincinnati	Detroit	Dallas
Baltimore	Chicago	San Francisco	Seattle	Montreal	Havana

**FROM THE WILDS OF CANADA COMES THIS REMARKABLE PICTURE**

•

ONLY by canoe can it be reached—  
but once there at Owakonze Camp—  
in Ontario one will find this beautiful  
basketball floor finished with the  
BEST FINISH MONEY CAN BUY.



## **ALL AMERICAN GYM FINISH**

•

Enduring 30, 40 even 50 subzero weather for six or eight months, covered with huge drifts of snow, often times submerged by sheet upon sheet of ice, pounded by constant spring rains, used by hundreds of boys during vacation time—but still the hard, durable elastic film of All American Gym Finish is unharmed.

Investigate the success that may be yours in the finish field by offering your customers the best. A letter today brings full particulars tomorrow.

•

# **T. F. WASHBURN COMPANY**

2244 ELSTON AVENUE

CHICAGO, ILL.

# THERE'S A REASON

● There's a reason why the housewife will prefer one insecticide to another. Both kill effectively, yet one is more pleasant to use, nicer in the home. This is the job that proper, scientific perfuming can do, perfuming that unobtrusively covers the obnoxious kerosene odor but leaves no perfumy pall.

Send us a gallon of your unperfumed spray and let us submit our suggestions.

**VAN AMERINGEN-HAEBLER, INC.**

315 Fourth Avenue, New York City

USE  
**BEE**  
BRAND  
DISINFECTANT

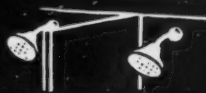
for sanitary cleaning  
and deodorizing of:



TOILETS



WASHROOMS



SHOWERS



REFRIGERATORS



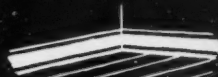
KITCHEN SINKS



FOOD CLOSETS



REFUSE PAILS



WALLS AND FLOORS



TELEPHONES



ASH TRAYS



CUSPIDORS

# AT LAST! A DISINFECTANT WITH NO BAD ODOR-NO BURN-NO DANGER

Here's the answer to many a prayer . . . the new BEE BRAND DISINFECTANT . . . a miracle of modern laboratory science! Consider these advantages. It does not burn the skin—even when spilled on the hands, full strength. It is non-poisonous when used as directed—yet it has the full disinfecting strength of the usual carbolic acid solutions. It destroys obnoxious odors (such as those from toilets, garbage or vomiting) almost like magic—yet leaves no noticeable odor of its own. Its low price and high phenol coefficient—8 F.D.A. Method—

provide a material with high disinfecting and deodorizing properties at very low cost.

BEE BRAND DISINFECTANT is excellent for household use, and for hotels, hospitals, schools, office buildings, industrial plants, institutions, pullman cars, steamships, transport planes, terminals, theatres, restaurants, and other places where disinfectants with strong carbolic, phenol or chlorine odors are unsuitable or objectionable.

For further information write to: The McCormick Sales Co., Baltimore, Md.



A PRODUCT OF **McCORMICK** ALSO MAKERS OF  
PYRETHRUM POWDER • DERRIS POWDER • DERRIS EXTRACT  
DERRIS RESINATE • ROTENONE CRYSTALS



# *Lasting Fragrance and Covering Power*

## *For* **DISINFECTANTS and FLY SPRAY ODORS**

### *Reasonably Priced Blends*

CARNATION 2927  
CARNATION 3388  
EAU DE COLOGNE 2905  
EAU DE COLOGNE 3389  
GARDENIA 3390  
INCENSE 2865  
JASMINE 2864

JASMINE 3387  
LILAC 2863  
LILY OF THE  
VALLEY 2862  
MIMOSA 2867  
ROSE GERANIUM 2866  
SPICE 2861

### *Single Aromatic Chemicals*

BENZOPHENONE  
BENZYL ACETATE  
CITRONELLOL  
CUMARIN  
ETHYL BENZOATE  
GERANIOL  
IONONES

METHYL ACETOPHENONE  
METHYL BENZOATE  
METHYL SALICYLATE  
PHENYL ETHYL ALCOHOL  
TOLYL ALDEHYDE  
VANILLIN

*Request for samples on your firm's letterhead will be promptly answered.*

**PROTECT YOUR SOURCE OF SUPPLY BY USING THE ABOVE PRODUCTS  
MANUFACTURED IN THE U. S. A.**

*Aromatics Division*  
**GENERAL DRUG COMPANY**

170 VARICK ST., NEW YORK  
TRANSPORTATION BLDG., LOS ANGELES, CAL. 9 S. CLINTON ST., CHICAGO  
1019 ELLIOTT ST., W., WINDSOR, ONT.

# 3 REASONS FOR SPECIFYING PARAPONT\*

when you order para-dichlorobenzene!

## 1. "PARAPONT" IS PURE

Specify "Parapont" if purity is a requisite for the para-dichlorobenzene you use. Du Pont maintains the highest standards of purity in its manufacture—constantly. That's why you can be absolutely certain that every shipment of "Parapont" is white, free-flowing and lustrous.

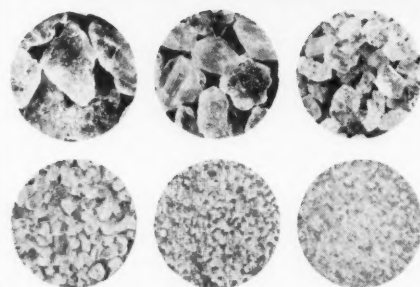
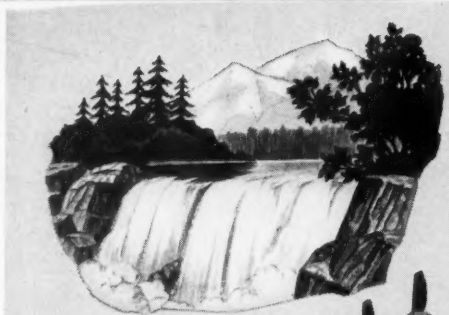
## 2. "PARAPONT" IS UNIFORM

Whether you order "Parapont" in single drums or in carload lots, you'll always get the same fine quality para-dichlorobenzene. "Parapont" users rely on this consistent uniformity. That's why so many of them have been re-ordering so often.

## 3. "PARAPONT" IS ADAPTABLE

"Parapont" is available in six granulations to fill every commercial need, in any quantity. And because Du Pont has an adequate supply always on hand, your order can be filled on the shortest notice.

TRADE MARK



**[[ If you aren't a "Parapont" user, place a trial order with us. We are sure you'll be back for more. ]]**



**E. I. DU PONT DE NEMOURS & CO. (INC.)**  
**ORGANIC CHEMICALS DEPARTMENT • WILMINGTON, DELAWARE**

# M M & R PERFUME-O-GRAM

M A G N U S , M A B E E & R E Y N A R D , I N C .



**LOOKING UP.** The modern glass brick facade of the M M & R building symbolizes an organization awake to swift progress of American industry.

## Insecticide Manufacturers Planning Experiments in December

A survey of the field by M M & R representatives shows that insecticide and disinfectant manufacturers are planning extensive perfuming experiments in December. Normally a slack month, it is ideal for probing the possibilities of imparting new odor personality to fly sprays, para blocks, etc. M M & R laboratories are ready to be of immediate service in aiding manufacturers to solve their perfuming problems. Many producers send a quantity of their unperfumed product which M M & R chemists carefully analyze and then perfume with the most suitable odors.

## Insecticide Convention to Be Attended by M M & R Officials

Headed by J. B. Magnus, Vice-President, M M & R officials, including A. H. Downey, Technical Adviser, W. F. Fischer, Sales Manager, and Stanley Barker, the company's New York Sales Representative, will be in attendance at the 26th Annual meeting of the National Association of Insecticide and Disinfectant Manufacturers to be held this year at the Hotel Roosevelt, December ??.

## Neutralizing and Perfuming Insecticides

### A STORY IN TRENDS

The insecticide industry stepped out of its swaddling clothes when American industry removed the first obstacle; that of providing a positive toxic agent. With this hurdle out of the way, insecticide manufacturers began to think in terms of product sales appeal, of better packaging, of odor personality, of more lasting coverage of the carrier, and of greater production economy without sacrifice of quality.

More than ten years ago, Magnus, Mabee & Reynard Inc. began experimenting with perfume oils expressly compounded for specialized use in sprays. From this developed a number of Kerospray Perfume Oils. Of these, the one that is today most widely used is Kerospray Bouquet B.L.S. an odor with tremendous covering strength and one which with succeeding years became increasingly more economical to use as the petroleum industry learned to decrease the odor in kerosene. 1 ounce of B.L.S. to 3 gallons of spray is the common average today where ordinary kerosene is used. Where the manufacturer uses so-called "odorless petroleum distillates" the average requirement is 1 ounce to 5 gallons. The end odor of B.L.S. is of a delicate lilac character. Its wide usage can be attributed to its low cost, exceptional intensity of odor, and most of all to its effectiveness as an insecticide perfuming agent.

### New Toxic Agents Bring Changes

In recent years the introduction of better toxic agents Lethane (Rohm & Haas), D.H.S. Activator (Hercules), Pyrin (Dupont) Pyrethrum Extract and effective rotenone derivatives made necessary neutralizers and perfume oils scientifically prepared for specific use with these products. For use with Lethane 384, M M & R chemists perfected Deodorant L 37, a neutralizer of positive effectiveness now extensively used in Lethane preparations here and in South America. Tests by Rohm & Haas and M M & R laboratories of Deodorant L 37 in an extensive variety of insecticides have resulted in a recommendation that this product be introduced in proportion of 1½ ounces to a gallon of Lethane before dilution in the usual proportions with other ingredients. This in terms of neutralizing cost is under one cent per gallon of spray. Many manufacturers who prefer perfumed sprays to neutralized, unperfumed products, use Deodorant L 37 as the neutralizer of all objectional odors. This serves to materially reduce the quantity of perfume required and results in a noticeable economy.

### Neutralizers No. 202 and 801 Are Instantaneous Successes

After many years of experimentation, the M M & R laboratories began to market Neutralizers No. 202 and 801 just about the time Lethane 384 Special was introduced. That they should immediately win a host of enthusiastic users was not surprising.

Both are extremely economical, both are positive neutralizers, covering the odor of the toxic ingredient and any oil odor that may be present. The telltale odor of the spray ingredient is covered for the life of the product, for both these neutralizers resist penetration by the odor of the diluents they are designed to cover. Leading entomologists have praised Neutralizers No. 202 and 801 highly. Since both have somewhat different properties, the choice of the best for your insecticides can only be determined by testing. M M & R chemists recommend that you send a generous sample of your spray unperfumed to the M M & R laboratories. Several samples will be returned, all



View in the M M & R Laboratories

neutralized, and several perfumed, if you prefer a perfumed product. This has proven the best way of making a practical choice by comparison.

### Concerning Perfume Oil Sweetgrass M M & R

This is the most extensively used of all M M & R insecticide perfume oils. It has the refreshing odor of new mown hay and has proven successful where many other oils have failed to cover the odor of the diluent. Its concentration of odor is enormous (only 1 oz. to 30 gal. of spray required) which makes it pleasingly economical. Most important is the lasting property of this low cost perfume oil. Unlike many oils that give temporary coverage of modern oil bases and toxic agents, Perfume Oil Sweetgrass M M & R provides the finished spray with an odor personality of rare quality that is constant and lasting to the very end.

In discussing neutralizing and perfuming trends in this brief outline, specific solutions are, of course, not possible. Special problems should be presented to A. H. Downey, head of the technical laboratories at Magnus, Mabee & Reynard, Inc.

### Perfume Oil Headquarters

**MAGNUS, MABEE & REYNARD, Inc.**

16 Desbrosses St.

Chicago: 180 N. Wacker Dr.

New York, N. Y.

Offices in Principal Cities



## Your 1941 RAW MATERIALS

---

### WHAT TO DO ABOUT THEM

**F**OR many years we have served the insecticide and disinfectant industry with basic raw materials for the formulation of insecticides and disinfectants. By the development of Hercules Yarmor\* 302 Pine Oil for cattle sprays and pale wood rosins for disinfectants and D. H. S. Activator\* for household fly sprays (all of which have met with remarkable acceptance), we believe that we have been of genuine service to the industry.

We are anxious to be of even

greater service to you in 1941. This means an honest effort to help our customers by providing adequate supplies of our raw materials, plus the presentation of scientific data and developments to help in the formulation of better and more economical sprays and disinfectants.

We are pleased to place at your disposal the advantages of our knowledge and experience gained in serving the insecticide and disinfectant industry for many years.

NAVAL STORES DEPARTMENT

**HERCULES POWDER COMPANY**

*Incorporated*

961 Market Street Wilmington, Delaware

BRANCH OFFICES

CHICAGO

NEW YORK

ST. LOUIS

SALT LAKE CITY

SAN FRANCISCO

\*Reg. U. S. Pat. Off., by Hercules Powder Company.

QQ-22





**DRAMATIZATION**• Modern sales-psychology says, "Use pictures to project ideas." No wonder then, that smart package designers are turning more and more to the pictorial motif to sell the product in the container.

As a pioneer in creating packages that sell, Continental long ago sensed the possibilities of dramatization. The suggestions

shown here illustrate the imagination and skill of Continental's artists, at your service should you need their help.

But correct design is only the beginning of successful packaging. Perfect reproduction is also essential. The craftsmanship of Continental engravers, masters of the art of lithographing on metal, is your assurance of excellence no matter how intricate the design.

One of a Series Devoted to Packaging Ideas. Copyright 1940 by Continental Can Company, Inc.

# CONTINENTAL CAN COMPANY

NEW YORK • CHICAGO • SAN FRANCISCO • MONTREAL • TORONTO • HAVANA

# Win Consumer Appeal With the Popular BARROLL Pouring Nozzles



Perfect control in pouring . . . without dribbling or waste of product . . . means more satisfied users . . . bigger sales. Do not handicap a good product with a poor pouring nozzle.

Your can manufacturer can supply your cans with the efficient Barroll Nozzles. Specify them on your next order for containers. Samples and full particulars on request.

## BARROLL POURING NOZZLES *for Cans*

HENRY BARROLL & CO., INC., 100 EAST 42nd STREET, NEW YORK

Turn to '41  
WITH BETTER SMELLING FLY SPRAYS

Do it with

KEREX  
ODORS

**KEREX ODORS PROPERLY SCENT  
YOUR FLY SPRAY AT A COST OF LESS  
THAN 1c PER GALLON OF SPRAY!**

Years of research and thousands of practical tests have resulted in these outstanding perfumes for use both in pyrethrum base sprays or with the newer synthetic bases or combinations.

**KEREX BOUQUET**

A floral odor of proven merit

**KEREX M**

A clean "outdoor" scent

**KEREX L'ORIENT**

A sweet vanilla fragrance

**KEREX 11**

Especially desirable for the new synthetic insecticides, and developed with the collaboration of the manufacturers.

**SEND** US A SAMPLE OF YOUR UNPERFUMED SPRAY SO  
THAT OUR LABORATORIES CAN RECOMMEND THE  
MOST ADVANTAGEOUS PERFUME FOR YOUR PRODUCT.

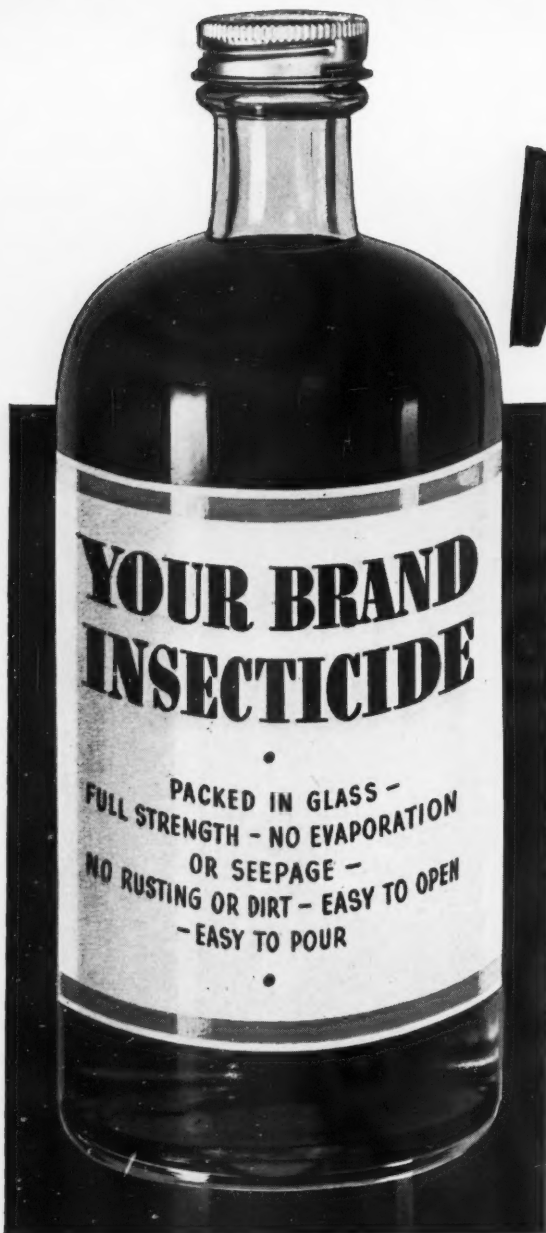


**FELTON**  
CHEMICAL COMPANY, INC.

603 Johnson Ave., Brooklyn, N. Y.

Manufacturers of Aromatic Chemicals, Natural Derivatives,  
Perfume Oils, Artificial Flower and Flavor Oils.

BRANCHES IN PRINCIPAL CITIES



# WHY

## YOUR INSECTICIDE WILL SELL BETTER

### IN *Glass*

● You've given a lot of time, thought and money to the development of a *good* insecticide. But perhaps it hasn't found its way into as many households as you'd like. Hasn't had a greater chance to *prove* its merit—because the package lacks one or more of the many features that so greatly influence sales.

Here's why a modern Anchor Hocking *Glass* package can step up sales and add a new appeal to your insecticide—particularly to women who buy most of the insecticide sold:

1. This glass container never rusts, doesn't get dirty. It's easy to pour from. It reduces spillage because the customer can see the level of the liquid when pouring.
2. With a sure-sealing Anchor Improved C.T. Cap, your insecticide is delivered and kept at peak performance. It reaches your customer at full strength and stays strong to the last drop—cuts customer complaint against loss of strength. The Anchor C.T. Cap allows no seepage, leakage or evaporation.

When you use an attractive glass package with an efficient easy-off, easy-on cap you've got an unbeatable combination—to stimulate the purchase and repurchase of your insecticide. Let us give you all the details of Anchor Hocking's *complete* packaging service. Write us or wire TODAY.

ANCHOR HOCKING GLASS CORPORATION  
Lancaster, Ohio  
Closure Subsidiary: ANCHOR CAP & CLOSURE CORPORATION  
Lancaster, Ohio and Toronto, Canada

Easy to open—easy to pour  
—an important point with  
women—who buy most of  
your product.



  
**ANCHOR HOCKING**  
—an unbeatable combination

**GLASS**  
**CAPS**





CATALOGUE "B"

### "ESSENCES BY DREYER"

This catalogue has a complete section devoted solely to Insecticide Perfumes ranging in price from 50c per pound to \$3.00 per pound. The perfumes listed under this classification are specially prepared to overcome the objectionable odors of kerosene and petroleum distillates. The perfumes are used also to produce fine aromas in all types of fly sprays.

There are many other listings of general interest to the Insecticide Soap and Sanitary Chemical Industries to be found in Catalogue "B." Write today for your copy.

## P. R. DREYER INC.

119 WEST 19th STREET  
NEW YORK, N. Y.

# FIVE

REASONS WHY MANUFACTURERS OF

# INSECTICIDES

ENDORSE—BY CONTINUED USE—

# PERFUMES

BY **DREYER**

1. LILOXENE 3470
2. MIMOXENE 3484
3. OROXENE 3912
4. ROSOXENE 4298
5. VEROXENE 5294

#### PRICE

**\$2.75** per pound

These five insecticide perfumes are by manufacturer and consumer choices, acclaimed to be the most popular Dreyer insecticide, fly spray perfumes due to their great strength, covering qualities and pleasing perfume characteristics.

#### *Suggested use—*

Refined Petroleum—1 oz.  
to 10 to 15 gal.

Ordinary Kerosene—1 oz.  
to 5 gal.



**Baird & McGuire, Inc.**

**ST. LOUIS, MO.**

**HOLBROOK, MASS.**

# Sanitary Products

A Section of SOAP

Official Publication, Nat'l. Assn. of Insecticide & Disinfectant Manufacturers

**F**ROM behind the scenes in the industry, we believe that we hear rumblings of impending activity in finding new uses for disinfectants,—the building of new foundations upon which the sale of disinfectants may be expanded. Needless to say, the present-day sale of disinfectants is eminently unsatisfactory, but with the development of new sales slants as a result of research and the proper use of such educational ammunition as may be made available, the prospects should be very much brighter. It is to be hoped that the present initial activity will be carried on and not be permitted to die aborning.



**A**NOTHER case of fatal poisoning, involving twelve deaths from sodium fluoride, has made the newspapers recently. It is again the old story of white fluoride in a plain paper bag, unlabeled, stored in a kitchen closet along with foodstuffs,—and the cook thought it was baking powder, or flour, or some other white food material. Whether this fluoride was left behind by a pest control operator or whether it was purchased in bulk for home use is not known. In either case, nothing but gross carelessness or stupidity could have caused the accident.

It so happens that sodium fluoride is a valuable and necessary material for the control of roaches. But like dynamite, buzz saws, and other essential but dangerous materials, it must be handled and used with

care, and above all, good common sense. The practice of some pest control operators in leaving behind an unlabeled paper bag of fluoride for further application by the customer is still not uncommon although it can hardly be termed good sense. And the use of white fluoride for the purpose, doubles the hazard. A continuation of this carelessness by those who should know better, invites highly restrictive legislation,—legislation which may curb the use of a valuable pest control material.



**P**YRETHRUM powder is alleged to have killed a kitten. This is the complaint which has been lodged with an insecticide manufacturer. The details we do not know, only that the owner is supposed to have used the insect powder on the cat and subsequently it died. Maybe it would have died anyway. Maybe it was sick when the powder was used. Maybe the powder had nothing to do with the death and maybe it did. But who knows? Who can give an answer to this question with a sufficient amount of real evidence to warrant drawing an intelligent conclusion. But, the cat died and somebody must be blamed, so it might as well be the manufacturer of the insecticide as anybody else. If a man just before being taken with a fatal illness happened to take a drink of soda pop, would we willy-nilly without investigating further place the blame on the soft drink?

# INSECTICIDE-DISINFECTANT PROBLEMS AT N. Y. MEETING

*Mothproofing, crawling insect tests, cattle sprays, pyrethrum analysis, wax testing, germicidal value of soaps, consumer views on sanitation supplies, raw material markets, law enforcement and legislation among subjects being discussed at 27th annual N. A. I. D. M. meeting*

THE 27th annual meeting of the National Association of Insecticide & Disinfectant Manufacturers is being held at the Hotel Roosevelt, New York, December 2 and 3. Numerous subjects of close interest to manufacturers in the industry are before the two-day meeting for discussion. Group luncheons are being held each day and the convention will close with an informal beefsteak dinner and floor show on Tuesday evening, December 3. The regular sessions were preceded by a meeting of the Board of Governors on Sunday evening, Dec. 1.

Among the prominent speakers listed on the program are: L. A. Appleby of the Socony-Vacuum Oil Co. on "Management on the March"; C. C. Concannon, Chief of the Chemical Division of the Department of Commerce, on "Late News on Supplies of Imported Raw Materials"; F. C. Nelson of Stanco, Inc., on "A Report on Cattle Sprays"; F. W. Fletcher of the Dow Chemical Co. on "Mothproofing Progress"; Dr. F. L. Campbell of Ohio State University on "Testing Liquid Insecticides Against Crawling Insects"; Dr. F. B. LaForge of the U. S. Department of Agriculture on "New Methods for the Determination of Pyrethrins"; Dr. E. M. Searls of the University of Wisconsin on "Droplet Size in Relation to

the Effectiveness of Liquid Insecticides." Dr. A. E. Badertscher of McCormick & Co. and chairman of the Insecticide Scientific Committee will report on technical developments of the year.

On Tuesday, December 2, Dr. C. C. McDonnell, Chief of the Insecticide Division, will speak on "Recent Changes in the Organization of the U. S. Department of Agriculture as they may affect the enforcement of the Insecticide Act of 1910. At the same session, Dr. Emil Klarmann, chief chemist of Lehn & Fink, Inc., will speak on the much debated subject, "Are Soaps Germicidal?" Melvin Fuld of Fuld Brothers, chairman of the Sanitary Specialties Scientific Committee, will report on "Floor Waxes and the Necessity for a Standard Procedure of Evaluation." Problems of the industry in federal and state law enforcement will be discussed by H. C. Fuller, technical consultant of the Association in Washington, D. C. C. L. Fardwell will report for the legislative committee.

"The Sanitary Supply Industry from the Viewpoint of the Consumer" will be discussed by H. H. Linn, Superintendent of Buildings and Grounds, Columbia University. Alden E. Stilson of the Morse-Boulger Destructor Co. will talk on "The Effect of the Defense Program on Sani-

tary Supplies and Insecticides." Election of officers and three members of the Board of Governors for 1941 is scheduled for the closing session.

Following the close of the business meetings, a cocktail party will be held on Tuesday evening, December 3, at 6:30 P.M. in charge of Fred Rauch of S. B. Penick & Co., and Harold King of R. J. Prentiss & Co. The informal beefsteak dinner and show will follow at 7:30 P.M. The entertainment committee in charge is composed of J. B. Magnus of Magnus, Mabee & Reynard, Inc., chairman, Charles Opitz of John Opitz, Inc. and R. W. Bjork of L. Sonneborn Sons. Finances of the meeting are in charge of John Powell of John Powell & Co., with D. G. Hoyer of the same company in charge of registration. The program for the meeting was arranged by a committee headed by Charles Dumas of Rohm & Haas Co., R. F. Joyce of Derris, Inc., A. W. Morrison of Socony-Vacuum Oil Co., and Robert C. White, Jr., of Robert C. White Co. W. J. Zick of Stanco, Inc., president of the Association is presiding at some sessions and J. N. Curlett of McCormick & Co., first vice-president at others. Henry A. Nelson of the Chemical Supply Co. heads the delegation to receive and welcome guests.

## PROGRAM

**Monday — December 2**  
**Morning Session**  
**W. J. ZICK, Presiding**

**9:00 A.M.—REGISTRATION**

Meeting called to order.  
Announcements.

"Some Observations On Our Association"—Address of President—W. J. Zick, Stanco, Inc.

Appointment of Committees.

Report of Treasurer — John Powell, John Powell & Co.

Report of Secretary—Ira P. Mac Nair, MacNair-Dorland Co.





#### ROLL CALL and INTRODUCTION OF GUESTS

Election of Nominating Committee.

"Advances in the Field of Disinfectants and Antiseptics During 1940" (by title only)—Dr. E. G. Klarmann, Chairman, Disinfectant Scientific Committee.

"Management on the March"—Mr. L. A. Appley, Socony-Vacuum Oil Co.

"Late News on Supplies of Imported Raw Materials"—C. C. Concannon, Chief, Chemical Division, U. S. Department of Commerce, Washington, D. C.

12:30 P.M.—GROUP LUNCHEON

#### Monday—December 2

##### Afternoon Session

J. N. CURLETT, Presiding

2:00 P.M.—Meeting called to order.

Announcements.

Report of Insecticide Scientific Committee.

Dr. A. E. Badertscher, Chairman, McCormick & Co.

Preliminary Report on Cattle Spray Test Methods—F. C. Nelson, Stanco, Inc.

Mothproofing Investigations—F. W. Fletcher, Dow Chemical Co., Midland, Mich.

Testing Liquid Insecticides Against Crawling Insects—Dr. F. L. Campbell, Ohio State University.

"New Methods for the Deter-

mination of the Pyrethrins"—Dr. F. B. LaForge, U. S. Department of Agriculture, Bureau of Entomology & Plant Quarantine, Washington, D. C.

"Droplet Size in Relation to the Effectiveness of Liquid Insecticides"—Dr. E. M. Searles, University of Wisconsin.

4:30 P.M.—Adjournment.

#### Tuesday — December 3

##### Morning Session

W. J. ZICK, Presiding

10:00 A.M.—Meeting called to order.

Announcements.

"Legislative Review and Outlook"—C. L. Fardwell, Chairman, Legislative Committee.

"Association Problems in Washington and Elsewhere"—Mr. H. C. Fuller, N.A.I.D.M. Technical Consultant.

"Recent Changes in the Organization of the U. S. Department of Agriculture As It May Affect the Enforcement of the Insecticide Act of 1910"—Dr. C. C. McDonnell, Chief, Insecticide Division, Washington, D. C.

Report of Nominating Committee.

"Are Soaps Germicidal?"—Dr. E. G. Klarmann, Lehn & Fink Products Corp.

"Floor Waxes and the Necessity for a Standard Procedure for Evaluation"—Melvin Fuld,

Chairman, Sanitary Specialties Scientific Committee.

12:30 P.M.—GROUP LUNCHEON

#### Tuesday — December 3

##### Afternoon Session

W. J. ZICK, Presiding

2:00 P.M.—Meeting called to order.

Announcements.

"Commercial Standards for Export"—M. E. Countryman, Division of Trade Standards, U. S. Department of Commerce, Washington, D. C.

"The Effect of the Defense Program on Sanitary Supplies and Insecticides"—Alden E. Stilson, Morse-Boulger Destructor Co., New York.

"The Sanitary Supply Industry from the Viewpoint of the Consumer"—Mr. H. H. Linn, Superintendent of Buildings and Grounds, Teachers College, New York.

Election of Officers and Three Members of Board of Governors. Reports of Miscellaneous Committees.

Report of Resolutions Committee.

Unfinished Business.

4:30 P.M.—FINAL ADJOURNMENT

6:30 P.M.—Cocktail Party

7:30 P.M.—Informal Beefsteak Dinner and Floor Show



**S**ANITATION in the U. S. Army, always important in keeping the military personnel at its maximum effective strength, has suddenly become a much bigger problem. For never before in the history of the United States during peace time have such large groups of men been thrown together in encampments,—and the needs for strict sanitation are multiplied many times as larger numbers of men must be accommodated. From all parts of the United States, thousands of National Guardsmen have left their civil employments to spend a year in uniform. Thousands of young men between the ages of 21 and 36, at this moment, are getting ready to swarm to training camps where, for the first time in their lives, they will be exposed to a communal existence, and entirely unfamiliar sanitary conditions.

Even in permanent Army camps, completely equipped with sewage systems, modern plumbing and water pipe lines, sanitary control must be rigidly enforced to eliminate the spread of disease. How much stricter enforcement is necessary, then, in semi-permanent encampments, in temporary bivouacs or during brief

halts while the army is on the march or in the field! Wherever such large numbers of men are gathered together, thousands of gallons of disinfectants and millions of pounds of sanitary products are needed for the continuous maintenance of the armed forces in the best possible state of health. Without these precautions and sanitary regulations, communicable diseases, once given the opportunity, might spread through the camps and disorganize entire training programs.

It is fortunate for the recruits, draftees and soldiers, therefore, that the Army authorities have given a great deal of attention to the problems of sanitation and have adopted standard practices and regulations which are in most cases enforced with characteristic military thoroughness. The basic field manuals of the War Department are very explicit in their treatment of military and field sanitation and the regulations contained in these manuals are closely followed by the commanding officers. No aspect of the problems of field sanitation is left unsolved by the compilers of these manuals, nor is anything left to the judgment of the individual. All is explained in detail, from the standard method of washing mess kits to the

control of rats and insects, from disinfecting latrines to disinfecting clothing. The importance of proper sanitary practices has long been recognized by military experts, for the history of warfare is checkered with campaigns in which more men were lost through disease than were destroyed by the enemy. Thus over a period of many years based on the sad experiences of the past, the present methods of sanitation in the Army have been developed. They are worth studying.

One of the principal objects of military sanitation is the strict supervision of the common avenues of the transmission of disease, such as water supplies, food, eating utensils, flies, mosquitoes and other insects, waste disposal, etc. In a permanent camp, these common avenues can be controlled quite easily. Mess halls, latrines, bathing facilities and living quarters are planned in units so that each group of approximately five hundred men has its own set of accommodations. At a camp visited by a representative of *Soap and Sanitary Chemicals*, the various units were arranged in pairs, first a long narrow one-story mess hall constructed of wood and equipped with wooden

# MILITARY SANITATION...

*The rapidly expanding army as a market for disinfectants and insecticides... what products are being used and how*

tables and benches, and next to it a wooden latrine building which housed urinals, toilets and showers all made of unpainted wood and exposed pipes, and a line of ordinary wash stands. Next to this pair of buildings was another pair serving a different group of about five hundred men, and these buildings stretched in a long line as far as the eye could see. In the first of these buildings, the mess hall, the routine of sanitation is very much as follows. The floors, tables and benches are, according to regulations, scrubbed with yellow "G. I." (Government issue) soap and hot water every morning, and the benches and tables, after every meal. The men who do this work are privates detailed to the job as part of their regular duties. All kitchen utensils are likewise scrubbed after every meal, using grit soap. The individual mess kits of the enlisted men are their own responsibility. These mess kits consist of a metal plate and cup and eating implements. After each meal, the men take their mess kits outside the building where garbage is disposed of in two receptacles, one for edible and one for inedible garbage. Mess kits are then washed in two changes of hot soapy water, rinsed in boiling clear water and air-dried. Each man washes his own kit by dipping it in succession in each of three ordinary galvanized iron cans set over a trench in which a fire has been built to keep the water hot. The use of towels for drying kits is not permitted.

Those who handle food are supposed to be subject to particularly

close control for they have the opportunity to transfer infective organisms to the food of other persons. Food handlers are of course required to cleanse their hands thoroughly before starting to work in a kitchen or mess and after each visit to a latrine. They are, moreover, advised to disinfect their hands by washing them in a "weak" solution of cresol and drying them in the air without wiping. This practice did not seem to be strictly enforced, however, in one camp visited.

The number of disinfectants recommended for use in the Army is comparatively small. Only one disinfectant appears to be used generally, although others, of course, are employed by the medical department in matters of personal hygiene or in specific cases of disease. This one versatile disinfectant is a regular cresylic type, termed "cresol" by Army authorities. It is ordinarily used in a 2 or 3 per cent solution. Soap is also credited with disinfectant properties by the U. S. Surgeon General. In the latrines, a 2 per cent cresol solution is used every day to disinfect the latrine boxes after they have been scrubbed down with soap and water. These wooden latrine boxes are then rinsed with hot water to remove most of the residual cresol. In temporary camps, crude oil is used around latrines to help make pits and boxes fly-proof.

A part of the permanent equipment in the bathhouses are foot baths containing a solution of proprietary calcium hypochlorite in the propor-

tion of one ounce of the dry chemical to each gallon water. The foot baths are arranged so that the men have to step into them going to and from the showers as a method of preventing the spread of ringworm infections. All bathhouse floors and equipment, including mats, benches and chairs are scrubbed daily with soap and water and are also disinfected by scrubbing with a 2 per cent solution of cresol. "Athlete's foot" is thus kept to a minimum in the Army. Any cases of the infection as well as of any other contagious or transmittable disease must be reported by the individual and the infection treated.

IN a permanent or semi-permanent encampment, the problems of insect control are not nearly as troublesome as they are liable to be in the field. The control of insects is simple in an established Army camp, as compared with actual wartime situations when the environment may favor the breeding of the body louse or "cootie" and other annoying or disease-carrying insects. Thus in ordinary camps in temperate climates, insects are usually controlled by means of commercial fly paper and screens around sleeping quarters and the prompt removal of accumulations of rubbish, garbage and stagnant water which ordinarily become breeding places for flies and mosquitoes. However, in camps where insects have become numerous, the Army field manual suggests numerous methods for their control.

For flies, the following methods are listed: the use of larvicides, the proper disposal of manure and garbage, swatting of adult flies, the use of poisons, fly papers, fly wires, sprays, and traps. Each method is discussed in detail in the "Bible" of the Army officer. A number of for-



mulas for larvicides are given. These are for use mainly in connection with compost piles and latrines:—one consists of 2 parts of cresol, 20 parts of kerosene and 78 parts of fuel oil; another of 2 parts of cresol and 98 parts of soap suds; a third of waste motor oil and a fourth of crude oil. A fifth larvicide which is held to be somewhat less rapid in action in destroying fly larvae but has the advantage that it does not render compost or manure unfit for fertilizer when used for that purpose, has this formula: 4 pounds of commercial sodium arsenite, 2 quarts of molasses, and 50 gallons of water. The larvicides are intended for destroying the larvae wherever manure is stored or where decomposition is taking place and flies are liable to breed.

The use of fly poisons in controlling adult flies is described thus: "Poisons are easy to use and effective. Formaldehyde and sodium salicylate are efficient fly poisons. The formulas for preparing them are:

"(a) Commercial formalin. . . . two parts.

Milk or sweetened water or milk and 50 per cent lime water 98 parts.

(b) Sodium salicylate one part. Sweetened water (1 tablespoon brown sugar to 1 pint water) 100 parts.

"Poison baits should be put out in shallow containers with pieces of bread or blotting paper soaked in the poison so as to give the flies a place on which to light."

The authors of the Army manuals seem to be on somewhat uncertain ground when they come to discuss fly sprays. "An efficient fly spray," they say, "can be made by soaking crude pyrethrum powder in kerosene in proportion of from one-half to 1 pound of the powder to 1 gallon of kerosene for from 2 to 4 days. The supernatant liquid is then decanted or siphoned off and is ready for use as a spray. Its insecticidal power is appreciably increased by the addition of approximately 1 ounce of the oil of pennyroyal or citronella to 1 gallon of the extract." (Even the Army falls for this one. Somebody should give them the facts.—Editor.)

Having made this pronouncement, the authors note that commercial extracts of pyrethrum are available on the market. "A fly spray which is approximately equal in toxicity to the kerosene spray described above can be made by diluting the concentrated extract with 20 volumes of kerosene," they suggest.

These measures are all suited for particular cases, it seems, but the manual classes them as far inferior to fly traps for destroying adult flies, which are called "the most valuable means for destruction of adult flies in camps." Several different types of fly traps are employed in the Army. These vary in design and size but all consist of two main parts, the bait chamber or the lower and darker part of the trap into which the flies are enticed by the odor of the bait, and the trap chamber or the upper part which is connected with the bait chamber by an aperture through which the flies crawl toward the light after having fed on the bait. The traps are constructed mainly of wire screening. Fly baits recommended for use with the traps fall into two classifications, putrefactive and fermentive, and consist of materials such as spoiled meat or fish, fermented cornmeal and molasses, overripe bananas, brown sugar, or sour milk. (We wonder if the Army likes the odor.—Editor.) Army officials apparently pin more faith on devices of this sort than on prepared insecticides such as U. S. Army specification No. 4-1074.

Mosquitoes as transmitters of malaria, yellow fever and other tropical diseases, are given even more attention than the common fly,—principally because of the threat from these insects in Panama and the Philippines. For their control, in addition to draining of ditches, filling of possible breeding places and screening, the following methods are suggested in Army manuals: the use of oil films, larvicides, pyrethrum sprays and repellents. Two general kinds of larvicides are recommended as suitable for Army use and these, it is said, can be used wherever hand oiling is feasible. The first is Panama larvicide which is made by dis-

solving 6 pounds of finely crushed rosin in 5 gallons of crude carbolic acid at near boiling temperature. One pound of caustic soda, dissolved in a pint of water, is added and the mixture heated and stirred until a sample produces a satisfactory emulsion with water. This larvicide is prepared for use by mixing one part of the larvicide with five parts of water. It is either sprayed or poured into the larva-infested water and it is claimed at a concentration of 1 part in 5,000 it will kill the larvae in about ten minutes.

Other formulas similar to this one substitute tar acid oils for the carbolic acid and are said to be much more effective. The tar oil larvicides are not mentioned in Army Field Manuals FM 21-10 or FM 8-40, but represent a more modern form than the phenol larvicides. Another larvicide, which is designed for controlling *Anopheles* mosquitoes over large areas, is one made with paris green as the active ingredient. For preparing this, commercial paris green containing not less than 50 per cent arsenious oxide is used, this diluted with inert dust. Diluting dusts suggested by Army authorities are hydrated lime, road dust, powdered limestone, ashes, or stearates of calcium and aluminum. The larvicide is mixed in proportions of 1 part of paris green to 99 parts of dust and applied either by means of a hand blower of the bellows type, a hand-operated duster or from an airplane. Paris green has the one very serious defect of being poisonous to humans and animals as well as to insects. For this reason it is probably not used widely.

Crude oil, waste motor oil diluted with kerosene, and kerosene itself are also used by the Army in killing mosquito larvae. A formula in the Army manual for a mosquito repellent is prepared as follows: to 60 grams of melted white petrolatum add 15 cc of citronella oil, 8 cc spirits of camphor and 8 cc oil of cedarwood. This repellent is designed for application to the person during periods in the open when other methods

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# What About Our Market?

Annual address of the President  
of the National Association of Insec-  
ticide and Disinfectant Manufac-  
turers before its 27th annual meeting

*By W. J. Zick*

*Stanco, Incorporated*



W. J. ZICK

**D**URING the many years that it has been my privilege to be connected with the activities of this Association, I have been greatly impressed by the progress that has been made by the Scientific Section. Under very able guidance, both the Insecticide and Disinfectant Scientific Sections have done some very valuable work. They have developed methods of testing and in collaboration with the National Bureau of Standards have established standards of quality. All of this scientific work has raised the average of the quality of the products offered to the consuming public very appreciably. Some practically worthless products which were on the market several years ago, have disappeared. In the Sanitary Supply Section much work has been done on measuring the slipperiness of floor waxes and I am certain that real progress will result from this research program when completed.

Because of all this research activity the consuming public is on

the average getting more for its dollar than ever before, which is as it should be. However, in all the years during which this scientific progress has been made by our Association, what progress has been made in the marketing of these superior products resulting from all this research? The selling of our products is conducted about the same today as it was a generation ago. There are many projects in connection with marketing which could be worked on by the Association and which would in no way conflict with or be in violation of any law now in effect.

Here are some suggestions of information that might be helpful. What is the need for the products manufactured by members of this Association? Is that need the same in Maine and California, in Washington and Florida? What household insects are prevalent in various parts of the country? What causes insects to be worse pests some years than others? I have heard some general explanations but none backed up by real facts. Are insecticide sales in-

fluenced more by the habits of people or by insect prevalence? Why do people buy our products? Is it because of an existing need for them or is it because of advertising? What income group is the largest user of insecticides and disinfectants? In which income group is the greatest need for insecticides and disinfectants?

In the automobile industry, figures on car purchases and truck purchases are available. In the petroleum industry, gasoline volumes are obtainable. We know the amount of wheat, corn and cotton grown annually on our farms. The amount of alcohol produced annually by our distillers is public information. However, there is not a manufacturer here who knows accurately what the total market by types is for insecticides and disinfectants. As manufacturers, we go out and try to get all of the business possible which is as it should be, but no one knows the total market or his share of it. The Government at present gets out some figures, but they  
(Turn to Page 123)

## Scientific Advances in 1940 in

# DISINFECTANTS AND ANTISEPTICS

*By Dr. Emil Klarmann\**

*Lehn & Fink Products Corp.*

**W**HILE, as in previous years, this annual survey of scientific and patent literature on disinfectants and antiseptics, endeavors to cover the field as completely as possible, there is no doubt that due to war conditions much of the world's technical literature is not accessible at this time, and that it may be necessary to reserve for a future survey the discussion of publications which properly belong within the scope of the present one.

### Phenolic Products

Reference was made in last year's survey to the important researches on the production of phenolic fractions from petroleum sources which were conducted almost simultaneously by the Shell Development Company and the Standard Oil Company of California. The papers in question have been published, in the meantime: D. B. Luten, F. A. Bent and M. L. Griffin (1) on one hand, and E. Field, F. H. Dempster and G. E. Tilson (2) on the other, presented comprehensive reviews of the progress made, with due consideration given to the bacteriological and toxicological aspects of the problems involved.

The synthesis of high-molecular phenol derivatives, with the aid of chlorinated petroleum fractions, is the subject of a patent granted to L. H. Flett (3). As an example, the kerosene fraction boiling between 225 and 275° is chlorinated leading to a mixture of mono-, di- and polychlorohydrocarbons; condensation in the presence of zinc chloride with a cresol yields a mixture of high-molecular

alkyl cresols. Phenol, cresylic acid, salicylic acid and other phenolic materials may be used in the condensation reaction.

R. R. Read (4) received a patent covering alkyl cresols, obtained by reacting pure or mixed cresols with alcohols, e.g., sec. butyl or amyl alcohol, tert. butyl or amyl alcohol, cyclohexyl alcohol, etc. The same author also obtained a patent for alkyl guaiacol derivatives such as hexyl guaiacol, sec. butyl guaiacol, cyclohexyl guaiacol, etc. for which germicidal properties are claimed (5).

The preparation of certain alkylated halophenols is described in a patent issued to L. E. Mills (6). The products may be obtained by three different methods. Examples are 2-chloro-4-tert.butyl phenol, 2, 6-dichloro-4-hexyl phenol, etc. They are claimed to be effective against *B. typhosus* and *Staph. aureus*.

A rather exhaustive bacteriological study of the isomeric xylenols, and of their monochloro- and monobromo derivatives has been carried out by G. Lockemann and K. Heicken (7). Following are just a few of the interesting results obtained: with respect to *Es. coli* as test organism, 4-chloro-2,3-xyleneol, 4-chloro-3,5-xyleneol and 4-chloro-2, 5-xyleneol are four times as potent as 6-chloro-3, 4-xyleneol or 6-chloro-2,4-xyleneol. With regard to *Staph. aureus*, the three 4-chloro-xyenols are fifteen times as strong as the first mentioned 6-chloro-xyleneol. The three 4-bromoxylenols corresponding to the three 4-chloro-derivatives given above are six times as potent as the two 6-bromo-xyenols with respect to *Es. coli*, and 33 as potent with respect to *Staph. aureus*.

Mixtures of alkyl and chlorophenols with essential oils, pine oil and ti-tree oil were studied bacteriologically by Q. Moore and J. N. Walker (8). Preparations containing mixtures of the essential oils with p-chloro-m-xyleneol, isothymol and chloroisothymol, respectively, were subjected to Rideal-Walker tests using *Eb. typhosa* and *Staph. aureus* as test organisms. An increase in the proportion of the essential oils intensifies the efficacy with respect to *Eb. typhosa* but reduces it considerably with respect to *Staph. aureus*. To show any activity against *Staph. aureus* the amount of the phenol derivative must not drop below one-third that of the essential oil. Incidentally, even though the Rideal-Walker testing method specifies *Eb. typhosa* as test organism, the authors advocate the use of *Staph. aureus* as more reliable for the testing of preparations intended for the use on the skin.

The emulsification by means of sulfonated castor oil of water immiscible, coal tar materials has been reported upon by L. Gershenfeld and B. Witlin (9). The disinfectants thus obtained compare in antibacterial efficacy with those produced with the aid of soaps.

A patent covering additive compounds of different cyclohexylamine derivatives with phenols has been granted to G. L. Hockenjos (10). The products are obtained by reacting phenol, cresol, polyphenols and their homologs with primary, secondary or tertiary cyclohexylamines such as cyclohexylamine itself, N-ethylcyclohexylamine, N,N-dibenzylcyclohexylamine, N-benzylidicyclohexylamine and others.

A combination of o-phenyl

\*Reported before the 27th annual meeting of the National Association of Insecticide and Disinfectant Manufacturers, Inc., New York, Dec., 1940.

phenol with a solvent containing benzyl alcohol has been patented by H. Worne (11).

### Organic Mercury Compounds

Since the mercuriation of organic compounds is a rather general reaction, it is not surprising that every year sees a considerable addition of new organic mercury compounds to the many already known. As pointed out on a previous occasion, great care is indicated in the bacteriological evaluation of this class of products, since many, if not most of them, are inhibitory rather than germicidal; nevertheless, in some publications the effective dilutions are referred to as germicidal, owing to the authors' failure to ascertain the character of the antibacterial effect through suitable experimental technic (e.g., subtransfers).

A class of aliphatic mercury compounds, obtained by means of a reaction between soluble mercury salts and unsaturated aliphatics, is the subject of a patent granted to K. Görnitz, W. Harnack and O. Wurm (12). Hydrocarbons containing ethylene linkages (e.g., ethylene, propylene, cyclohexene) with halogenated carbonyl compounds (e.g., chloral hydrate, bromal) yield in the presence of lower aliphatic alcohols compounds of the type of alpha-trichloro-beta-hydroxy-beta-(acetoxymercuri-ethoxy)-ethane, showing germicidal and fungicidal properties.

A patent covering the preparation of phenyl mercuric citrate has been issued to R. P. Perkins (13). This compound is said to be highly germicidal. Another phenyl mercury derivative is phenylmercuric borate patented by W. G. Christiansen (14). Stabilization of solutions of phenyl mercury compounds such as phenylmercuric borate with a tribasic acid is the subject of a patent by M. J. Rentschler and D. B. Bradner (15), while the use of gelatin, egg albumin, pectin, casein and of other similar protective colloids in connection with the mercury derivatives of substituted phenols (e.g., acetoxymercuric nitro-p-tert. butyl phenol) figures in a patent by W. G. Christiansen (16).

C. N. Andersen adds another to his formidable list of patents for organo-mercury compounds (17), covering aromatic mercury salts of acetyl amino substituted acids. Some examples are phenyl-mercury acetyl-anthranilate, phenyl-mercury acetyl-aminonaphthoate, diphenylmercury 3-acetylaminophthalate and others.

Fluorinated aromatic mercurials were studied by M. F. W. Dunker and T. C. Grubb (18). Of the several compounds, 4-fluorophenylmercuric chloride was found to be the most effective against *E. typhosa* while 3- and 2-fluorophenylmercuric chlorides showed the greatest efficacy with regard to *Staph. aureus*.

K. Memminger and B. Gaudian secured a patent for compounds of which 2-phenylethyl-5-(phenylmercurioxy)-phenol is an example (19). While this compound is a derivative of phenylethyl resorcinol, the corresponding pyrocatechol and pyrogallol derivatives are also claimed to be efficient disinfectants and preservatives.

Germicidal mercury compounds of pyridine were studied by M. W. Swaney, M. J. Skeeters and R. N. Shreve (20). The pyridylmercuric compounds are found to be generally strongly antibacterial and of low host toxicity. With respect to *Staph. aureus* as test organism, they are somewhat weaker than the corresponding phenylmercuric compounds, although 3-pyridylmercuric chloride shows a stronger bacteriostatic action upon *Es. coli* than any other organic mercury compound tested. The greater solubility of the pyridine derivatives favors their use in medicine; they may be useful also as seed disinfectants, as ingredients for soaps and as industrial preservatives (e.g., for paper and glue).

A patent for mercuri-mercapto-compounds was granted to R. J. Fosbinder and L. A. Walter (21). An example is 2-(ethyl-mercurithio)-5-pyridine-carboxylic acid.

### Arylsulfonamides

The growing success of the chemotherapeutic treatment of a number of bacterial diseases by means of

different sulfonamides naturally stimulated research in the synthetic field of this group of compounds. Even a fragmentary discussion of the pertinent publications would by far exceed the scope of this presentation. Therefore, only a few papers will be mentioned briefly here and only insofar as they deal with the direct action of the drugs upon bacteria.

L. Rosenthal (22) reports that sulfanilamide, in a concentration of 1:1000 inhibits spore formation and induces degenerative changes in the bacteria of the *subtilis-mesentericus-mycoides* group. A. Fleming (23) finds that both sulfanilamide and sulfapyridine have a strong bacteriostatic effect on *Streptococcus pyogenes* when present in small numbers, but that their effect is negligible on massive implants (24).

According to H. F. Helmholz (25), sulfathiazole and sulfamethylthiazole are bactericidal for the urinary *Strept. faecalis* and *Staph. aureus* when administered by mouth. Urinary Gram-negative bacteria require higher concentrations; *Pseudomonas aeruginosa* appears to be the most resistant of them.

C. A. Laurence (26) compared the inhibitory action of sulfanilamide itself with that of its thiazole derivatives and finds the latter to be superior in his respect against pneumococci (Types I, II and III), against beta-hemolytic streptococci A, and also against *Staph. aureus*. (2-sulfanilamido-4-phenylthiazole is known as sulfaphenylthiazole, 2-sulfanilamido-4-methylthiazole as sulfamethylthiazole.)

J. C. Lockwood (27) connects the antibacterial action of sulfanilamide with its structural resemblance to an identified bacterial metabolite, viz., p-aminobenzoic acid. He postulates that by occupying a position in the metabolic scheme of the bacterial cell reserved for this "digestible" metabolite, the "indigestible" sulfanilamide disturbs the biological cell mechanism, thus weakening the bacteria and rendering it an easy prey for the leucocytes.

# WARNING

TO HOUSEHOLD SPRAY MANUFACTURERS  
DON'T KILL YOUR KILLING POWER

## USE PYRISCENTS

It is now a well recognized fact that some perfumes reduce or completely destroy the killing power of sprays. The three basic undesirable features of ordinary perfumes are: Unfavorable chemical reaction with Pyrethrum, lack of complete solubility in oils, and poisonous odor bodies.

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## Dyes

A number of medicinal dyes, including crystal violet, methyl violet, brilliant green, methylene blue, proflavin, acriflavine and parafuchsin were tested for their inhibitory action upon the growth of embryonic tissue in comparison with their antibacterial effect, by J. L. Schechmeister and A. J. Salle (28). The dyes show a distinct bacteriostatic, but a weak germicidal action; and they are more toxic for embryonic tissue than some of the better germicides not of dye origin.

A patent was issued to W. G. Christiansen and W. Braker (29) for 3, 7-diamino-9, 10-dialkylphenanthridinium halides, claimed to show anti-septic properties.

F. W. Tilley (30) reports that the addition of phenol or o-cresol to solutions of crystal violet or of methyl violet intensifies their efficacy against Gram negative, but not against Gram positive bacteria. On the other hand, addition of the phenols to solutions of brilliant green or of malachite green has little or no effect. Adding sodium carbonate to aqueous solutions of crystal violet markedly increases the bactericidal effect, but the addition of borax or of disodium phosphate produces little or no effect.

C. Ritter (31) reports on the action of the homologs pararosaniline (Magenta O), rosaniline (Magenta I), Magenta II, new fuchsin (Magenta III) against ten strains of bacteria which may be found in water.

## Miscellaneous Antibacterial Agents

### (a) Inorganic

P. B. Price (32) carried out a comparison of mercuric chloride, potassium mercuric iodide and Harrington's solution as skin disinfectants. He found that in each case a film forms on the skin which is resistant to further disinfection and under which bacteria multiply. Application of ammonium sulfide helps to remove this film and allows disinfection of the underlying layers of the skin.

The mixture of gases produced

by passing compressed air through an electrode are efficiently bacteriostatic and bactericidal, and useful, among other things for the treatment of infected wounds, according to H. G. Williams and T. A. Hartgraves (33). The antibacterial action is due probably to small amounts of citric acid and nitrogen oxides. When used correctly the procedure is stated to be harmless to tissue.

A patent granted to R. Müller (34) claims antibacterial properties for air passed through a heated porous substance through which gasses saturated with silver compounds have been passed previously. The effect is said to be due to the presence of silver particles which display the antibacterial action.

The germicidal properties of thiocyanates have been referred to in previous reviews. A patent issued to C. Weidner (35) protects the stabilization of acid thiocyanate solutions by means of small amounts of metals which are to inhibit the evolution of hydrogen sulfide. An example is a mixture of sodium thiocyanate with potassium bisulfate to which traces of copper sulfate are added.

As a substitute for tincture of iodine (in Germany), "Sepsol" tincture is used. It represents an alcoholic solution of complex metal compounds with bromine or bromic acid. According to K. Wurm (36) it is less toxic and less corrosive to metals.

E. Ramel and C. Vulliémot (37) studied the antibacterial effect of ozone and concluded that it is due to the formation of ozonides.

A patent granted to M. Bayliss, J. L. Wilson and E. J. Ordal (38) covers germicidal detergents consisting of a major proportion of "buffer" salts such as sodium carbonate, sodium silicate, etc., with a small proportion of a wetting agent. If the pH is above 11.5, one-half to three per cent. solutions are said to be germicidal. The antibacterial action of detergents is the subject of a discussion by A. T. R. Mattick and E. Sharpe (39).

### (b) Organic

W. A. Bittenbender and E. F. Degering studied the effect upon bacteriostasis of the substitution in the para-position of phenylacetic acid and its derivatives (40). *Es. coli* and *Staph. aureus* were used as test-organisms. The p-bromo-derivatives were found to be the most effective of those studied. Substitution by chlorine in the acetyl-radical of N-acetyl-p-aminophenylacetic acid caused a marked increase in bacteriostatic action.

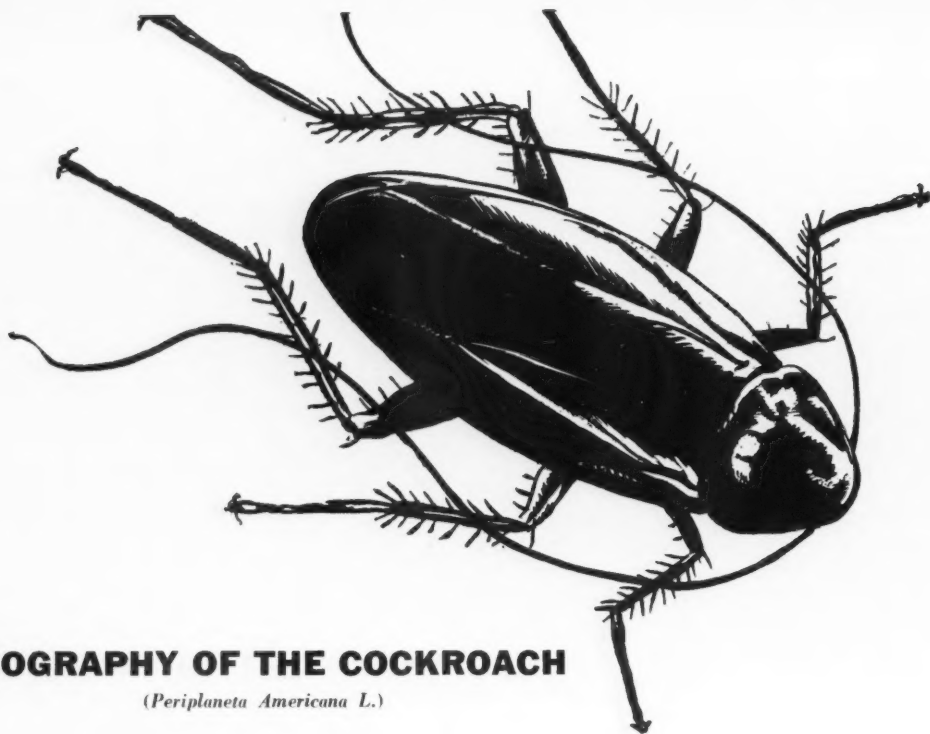
The bactericidal properties of p-nitrobenzoic acid and of its esters are the subject of a paper by R. L. Mayer and Ch. Oechslin (41).

The action upon fungi of a number of organic sulfur derivatives was studied by E. L. Everitt and M. X. Sullivan (42). Of over fifty compounds tested, a fungistatic effect was shown by phenyl thioarsenite, 4-chloro-2-nitrobenzene-sulfamide, sodium 1, 2-naphthoquinone-4-sulfonate and-sulfanilamide; fungicidal action was evidenced by phenylbenzothiazole and mercaptobenzothiazole, by the latter in a dilution of 50 to 100 p.p.m. The other compounds were ineffective.

D. B. Charlton (43) compared the antibacterial action of chloramin, chloramin T and calcium hypochlorite. A decrease of pH decreases the killing time only slightly in the case of chloramin, but markedly so in that of chloramin T and calcium hypochlorite. The effect of varying the concentrations was also studied.

Esters of N-alkyl piperidine-carboxylic acids are inhibitory for *Staph. aureus*, *Es. coli* and *Neisseria gonorrhoeae*, but not irritating to mucous membranes, according to two patents issued to O. Dalmer and C. Diehl (44). N-methyl-3-piperidine-carboxylic acid thymol ester is said to be most effective. Other important esters are those of chloro-m-cresol and of eugenol.

There has been further activity in the field of the organic ammonium bases. In a number of patents, however, broad claims are made for antibacterial action, apparently for the sake of coverage, even though the



## BIOGRAPHY OF THE COCKROACH

(*Periplaneta Americana* L.)

Cockroaches are among the commonest and most offensive insects which frequent human habitations. The ancients called them "lucifuga" because of their habit of always shunning the light. Fossils have been found in early coal formations. Both male and female have strong biting jaws so that they can eat a broad variety of food substances. Young are like adults except in size and lack of wings. Eggs are not laid separately but are brought together within the abdomen of the mother into a hard, horny pod or capsule. Roaches develop slowly—under the most favorable conditions. There rarely is more than one generation produced yearly.

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compounds may have been prepared originally for some purpose not related to disinfection, viz., as textile finishes, wetting agents, etc. That is why in this review a considerable number of such references had to be disregarded.

According to B. L. Freedlander (45), tubercle bacilli grown on asparagin media are inhibited by a 1:80,000 dilution of Zephiran. The wetting agents Nacconal NR and Aerosol OT-100 prevent growth in a dilution of 1:5000.

A French patent covers quaternary compounds of pyridine containing at least one radical with at least eight carbon atoms in an alkyl, aralkyl or aryl grouping (46). Examples are the hydrochloride of N-methyl- $\alpha$ -pyrido-stearoylimide, cetyl- $\alpha$ -picolinium chloride and others.

Guanyl- or biguanyl compounds, in which the carbon atom is bound via a nitrogen, oxygen or sulfur atom to an aliphatic residue of ten to sixteen carbon atoms, are the subject of a German patent granted to G. Domagk, of sulfanilamide fame (47). Dodecylthioethylguanidine hydrobromide is an example of the group covered.

According to D. B. Dott (48), aspirin is inhibitory to fungus growth in beef broth.

Considerable interest was shown in the recent work of R. Dubos (49), on the isolation from spore bearing soil bacteria and subsequent partial identification of biological bactericidal agents which are highly effective against Gram positive bacteria. The most active of the isolated substances has been called gramicidin (50); it is also highly toxic for mice. It is probably a polypeptide of a molecular weight of 1400, a provisional brutto formula  $C_{74}H_{106}N_{14}O_{14}$  and consisting of ten alpha amino-acids of which two or three are tryptophane residues; these and a saturated aliphatic acid with fourteen to sixteen carbon atoms account for about 85 to 90 per cent of the weight of the material. Two other substances of similar structure occurring with gram-

acidin are the graminic and graminic acids.

The effect of pH upon the antibacterial properties of a number of commercial antiseptics has been studied by W. A. Bittenbender, E. F. Degering, P. A. Tetrault, C. F. Feasley and B. H. Gwynn (51). Some of the findings of these authors are open to question particularly because of their apparent disregard of the possibility of bacteriostatic action on the part of a number of substances studied, as a result of which, e.g., organic dyes are credited with an enormous bactericidal potency to which they are hardly entitled in view of preceding pertinent work.

L. Gershenfeld and R. E. Brillhart subjected a number of ointments to an investigation of bacteriostatic action, using the F.D.A. agar plate and agar cup plate technics (52). They found that ointments containing as active ingredients ammoniated mercury (10 per cent), phenol (2 per cent), and bichloride of mercury (.1 per cent) respectively, displayed a greater bacteriostatic efficacy in the newer, water miscible ointment bases (of the synthetic wax and oxycholesterol groups) than in those of the older types. The authors recommend the consideration of such formulas in the next U.S.P. or N.F. revisions. Additional data on ointments have been contributed by the senior author with J. S. Zepeda (53).

### Methodological Studies

An analytical, chemical procedure suggested by J. R. Currie (54) for the assay of coal tar disinfectants consisting of saponaceous mixtures of crude carbolic acids and inert tar oils, is being referred to here because of its possible interest for checking.

J. O. Ely (55) describes a modified method of evaluating germicides by means of a manometric method, using *Es. coli* as test organism in a synthetic medium.

Recommendations for a standardized method of testing the bactericidal action of volatile compounds have been made by E. R. Kline (56).

I. Vitez (57) stresses the importance of the density of bacterial

suspensions in the examination of various disinfectants.

Studies on the chemical sterilization of surgical instruments were carried out by E. H. Spaulding (58). Four non-sporulating species of bacteria, three spore formers and a yeast-like fungus were exposed to seven different chemical solutions widely used for surgical instruments. While, with one exception, the non-sporulating organisms failed to survive an exposure of more than thirty minutes, bacterial spores were highly resistant, most of the chemical solutions failing to effect a sterilization within eighteen hours.

C. E. Coulthard (59) studied the effect of adding germicides upon the sporicidal action of intermittent heating at 80°C. Using a spore suspension of *B. mesentericus*, he found the addition of .25 per cent of p-chloro-m-cresol more effective than that of .5 per cent of phenol or of .3 per cent of tricresol.

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(Turn to Page 123)

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What repellent action, if any, do stock sprays have after the cows leave the barn? Farmers' opinions are evenly divided on this question.



## What the farmer thinks about LIVESTOCK SPRAYS

(Part II)

*By Christopher A. Murray*

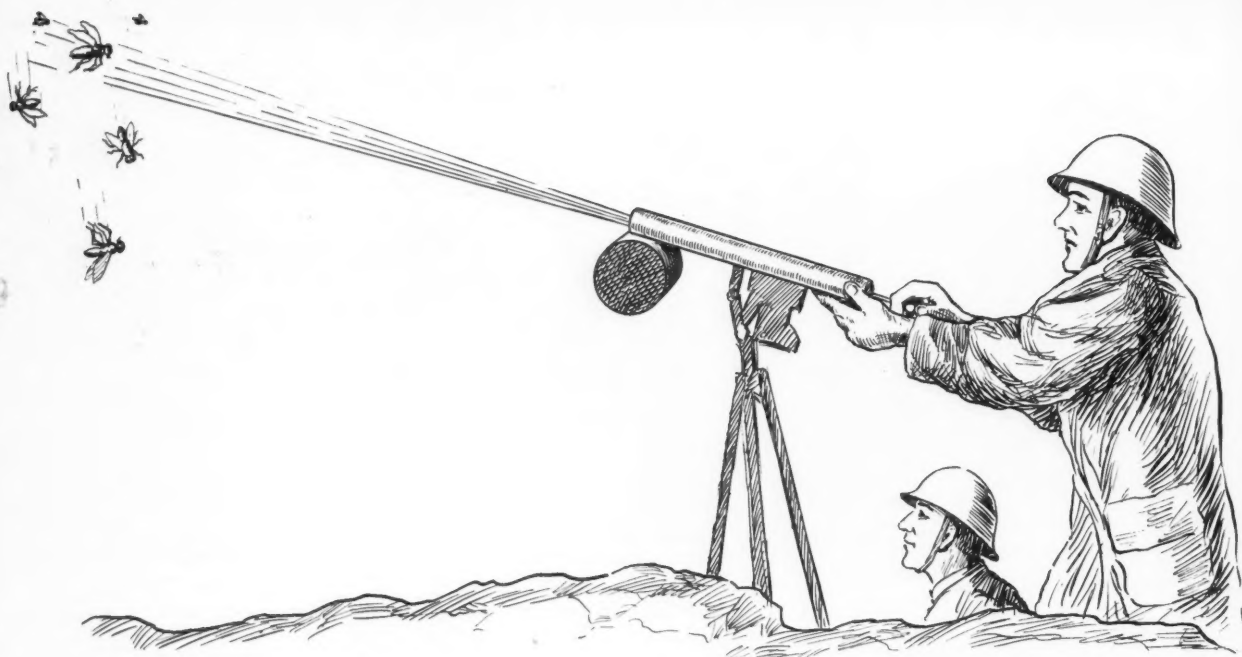
SOME manufacturers consider their cattle spray a major item and expend considerable care in developing the spray, formulation, and testing under practical and laboratory conditions. They put out quality sprays which require less spray per animal to do a satisfactory job. Others mix almost anything in almost any proportion, can it, label it, and sell it as cattle spray. It is manufactured with an eye on cost considerations chiefly and with small evident attention to quality or the insecticide concentrate manufacturer's recommendations. It is rarely tested, not pushed very hard in selling, and is considered just another item in the line to bring in a little income. There are undoubtedly more of these inferior products on the market than the number of properly-made and efficient products.

Of course, in the case of livestock sprays, there is no standard test, as in the case of the Peet-Grady method for houseflies and household liquid insecticides. The Peet-Grady method is not intended for use in connection with livestock sprays. It is plain, however, that some sort of a biological test for livestock sprays is a practical necessity. As far as protecting the interest of the manufacturers who have good products, a rough test is liable to prove better than no test at all. It is likely that a great many inferior livestock sprays are at present manufactured through ignorance and a lack of a satisfactory test rather than through an attempt to mislead.

*Eighty-four per cent of farmers believe that livestock spray use increases milk production.* A majority of the farmers interviewed believe that using livestock spray increases

the milk production of their herds. They use the term "increases production," it should be noted, to denote a belief that insect annoyance results in a lessening of normal production, and the use of livestock spray helps maintain the normal supply of milk. They give as their reason for this belief the observation that "cows can feed better and let their milk down normally" when they are free from insect annoyance.

They observe, for example, that they have very little variation in the milk supply during the winter when there are no insects, but that in the summer they notice variations which they attribute to the effects of insect annoyance. Several told of such incidents as that they had occasionally run out of spray for a few days, and noticed a drop in milk production until the spraying was resumed. In this regard, the farmers



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made a fairly common further observation that the cows become accustomed to the comfort of being protected from insects, and that when this protection is taken away, the animals are more than ever annoyed by the irritation of insects. The farmers seem to feel that this comfort and resulting increased feeding is an important factor in maintaining the normal milk production of their herds.

It is clear that the farmer's main reason for livestock spray use is an economic one. He wishes for the well-being of his animals as far as protection from insects will result in increased feeding, better physical condition, and hence more milk production than would be obtained if insect protection were not afforded. His practical experience and observations form the background for this conclusion.

One farmer had made a particular effort to ascertain the value of his livestock spray. He discontinued spraying for two weeks and on 16 cows noticed a drop in milk production of about twenty quarts a day. The milk production returned to normal when spraying was resumed. Of course the writer cannot vouch for the accuracy of these observations. However, it might prove profitable for manufacturers to conduct further tests on this controversial point of livestock spray use. A new approach might result in proof that through insect protection, livestock sprays will enable cows to feed better with consequent protection of the normal milk supply. Perhaps this might be had with nominal expense through the cooperation of several farmers during the fly season. With the proper experimental design and analysis of the results, accurate conclusions should be obtained.

Though the question was not specifically asked, no farmer mentioned that his milk production had fallen off as a result of spraying. If such had been the case, it surely would have been mentioned during the numerous discussions. Very likely the small amounts of spray used per cow, together with a general improvement in the base oils used in these

materials, makes this possibility negligible.

The farmers who did not think milk production was increased were those that were mainly interested in avoiding insect bother to themselves and their animals. These had not studied their milk production in particular. Some in this group were disinclined to believe that milk production could be influenced by the use of livestock sprays.

*Seventy-nine per cent of farmers think livestock spray use keeps animals in better physical condition.* About the same number of farmers believe their animals are in better physical condition because of livestock spray protection from insects. Several stressed the belief that insect bites and stings should be avoided. They pointed out that cattle are aggravated by insect bites, making the animals jumpy and nervous. These reasons might just as well have been discussed under the previous heading and require no comment beyond that already made in connection with milk production.

*Fourteen per cent of farmers have noticed livestock spray injuries to cows.* A minority of farmers have noticed injury to animals which they thought was due to spraying. This injury consisted of blistering, burning, and scabbing of the hide, with hair falling out in some instances. Nearly all of these farmers agreed that it might be the result of applying too much spray, or due to the fact that some were using improper sprays that had more of a tendency to cause burning. At any rate, there is enough experience of injury to warrant more care on the part of manufacturers in the choice of the base oil for their sprays. Since all oils will burn if applied too heavily, directions should be specific as to the danger of applying more than the recommended amount of spray.

*Three per cent of farmers have noticed milk taint due to spraying.* A negligible number of farmers indicate they have ever experienced any tainting of milk which they considered might be a result of spraying their herd. Upon further questioning

this was thought due to carelessness, as for instance, when a child was given the job of spraying, or carelessness on the part of the farmer using the spray.

Milk taint is very unlikely to occur because almost all the farmers are extremely careful of their milk and mostly avoid any carelessness which might cause contamination. The creameries enforce strict standards for the milk and of course would not accept any spray tainted milk. None of the farmers spray the udder and teats of their cows. Apparently the little mist that might contact these parts as a result of the ordinary spraying of the animal's shoulders and back cannot be considered enough to cause milk taint. The ordinary practice of spraying the barn and cows somewhat before milking tends further to eliminate any danger of milk contamination.

*Twenty-two per cent have an idea of what there is in livestock sprays that repels or kills flies. Thirty-one per cent think there is a connection between odor and repellency. About 40 per cent of these think repellency might be had also from compounds with no odor. Eighty-eight per cent in all feel effectiveness might be had from compounds with no odor.* A minority of the farmers questioned had ideas of what there is in a livestock spray that does the work of killing and repelling insects. Some had vague ideas about pyrethrum and pine oil, together with some notion that the base oil had something to do with effectiveness. None of these had any knowledge of the various synthetic materials.

About one-third of the farmers thought that odor has something to do with insecticidal action. This is not unusual, since most cattle sprays contain ingredients that have an odor. Several also expressed notions that there was some sort of a fumigation action to be had from the spray. On the other hand, many of the farmers who thought odor had little to do with livestock spray action, prefer a spray with as little odor as possible. It seems the farmers have caught the trend to less odor and no longer con-

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sider efficiency synonymous with bad smell in these materials as used to be the case some years back.

The farmers might well be better informed in respect to the insecticidal action of sprays, for it will lead to their most efficient use. Livestock sprays, being contact insecticides, have no fumigation action, and must contact insects to kill them. Recovery of insects from livestock sprays is to some extent influenced by the rapidity of evaporation of oil and certain volatile insecticides from the insect's body. This cannot be considered fumigation in any entomological or practical sense of the word. Since the barn is usually free of livestock spray mist shortly after spraying, the presence of oil in the air as a retardant of insecticide evaporation and fly recovery is a negligible factor.

Odor has no effect on killing insects. The role of odor in repelling insects is debated and evidently its effect depends upon the particular compound used. It is generally agreed not the same odors are necessarily repellent to insects as are disagreeable to humans. At present it is considered the best repellent action is mainly effected through the contact of insects with insecticide when alighting on an insecticide coated surface. Livestock sprays therefore need not have a strong odor either for insect repellence or because farmers are thought to prefer this type.

*Farmers interviewed prefer a particular brand because:—(1) Seven per cent follow a friend's recommendation. (2) Thirty-six per cent follow their dealer's recommendation. (3) Five per cent have found the brand advertised. (4) Fifty-one per cent have tried several out.*

Some attempt was made to determine the reasons for farmers' preference of a particular brand. A minority indicated they were influenced either by their friends or advertising. Either it is not likely that livestock sprays are often a subject of discussion when farmers congregate, or perhaps they are ordinarily too independent to be influenced by such discussions. Probably the advertising is mainly done through displays in

the local dealer's store or by the local dealer, and the farmers tend to give the dealer the main credit for using a particular brand. About a third of the farmers are influenced by the dealer. The dealer is usually a co-op, creamery, feed dealer, or hardware store. It is natural that farmers are especially influenced by these sources of supply and in many cases it was plain their recommendations were accepted without question. In the case of creameries, a certain amount of convenience was indicated, —the spray could be charged and obtained immediately with a minimum of bother.

The largest number of farmers, about fifty per cent, broke in on the preceding questions with the interpolation that they had tried several out until they had discovered one which they considered superior to the others. On the whole, the farmer seems well qualified to decide that he uses a good product. He is intimately associated with his herd and the main part of his livelihood depends on their well-being and productivity. In spraying his herd every day, he has ample opportunity to observe whether the spray is efficient. He can see if it has knockdown and kill, and whether it repels flies in the field. It was indicated that repellency is especially on trial after he has sprayed his team and is working behind them in the field for several hours. He is especially aware of the state of his milk production. Probably too often for the reputation of livestock sprays, he has purchased and observed the inefficiency of inferior products. This has resulted in his generally taking no one's word for value in these materials until personal observation has verified the claims.

Very likely this situation will not change until standard test conditions are developed for the knockdown and kill of livestock sprays. Repellent action needs even more attention. A standard test for this quantity must await the development of a suitable repellent standard, together with conditions of test that can be generally recognized as indicating a very close correlation between labora-

tory and field results. These may be difficult of achievement, but the guess may be hazarded that they are certainly not impossible.

Eighteen per cent have made their own spray in the past five years. Ten per cent were satisfied with the results. A question was included in the survey to find out to what extent farmers might be attempting to make their own sprays. This was done because of the complaint of manufacturers that frequently government agencies put out directions for making sprays at home. It is generally felt that these directions could not produce an efficient spray. On the other hand, these agencies feel there is a demand for such formulae and feel compelled to put them out. When giving the formula, they often make clear they do not recommend the procedure. No farmers were found who made their own sprays according to this type of formula. Evidently they will not go to the bother necessary in following the usual directions.

However, it was a surprise to find that about a fifth of the farmers had made some sort of spray or another of their own within the past five years. Half of these farmers were not satisfied with the results of their handiwork. Some of these sprays were hodge-podge mixtures of cylinder oil, separator oil, kerosene, and lubricating oil, with no insecticide ingredient added. It is suspected that personal pride caused some to indicate satisfaction with these materials, for they could have been of little value. These farmers at present are all using commercial sprays which is further evidence that the homemade sprays were just a stop-gap and could not take the place of manufactured products.

### Summary

A survey was made of 100 dairy farmers to find out their current practices and opinions concerning livestock sprays. It was found that most farmers desire a livestock spray that will readily knockdown and kill flies in the barn so that their animals will be comfortable during the milking process. About half the farmers felt they were getting added repellent

(Turn to Page 117)



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FOR A HAPPY PROSPEROUS  
NEW YEAR**

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**"FEDERAL FINISHES FOR FLOORS IN FORTY-ONE"**

# MOTHPROOF TEST REVISED

A REVISED proposed method of test of fabrics and yarns for resistance to moth and other insect damage has been drawn up by a joint committee of the American Society for Testing Materials working with the American Association of Textile Chemists and Colorists, and the National Association of Insecticide & Disinfectant Manufacturers. The method given here is a proposed revision of the method formerly published and which was discussed at a meeting of the joint committee on October 17 in New York. F. W. Fletcher of the Dow Chemical Co., chairman of the Moth Proofing Committee of the N.A.I.D.M., represented the insecticide industry on the joint committee. The revised method follows:

## Scope

1. This method of test covers the procedure for determining the resistance to insect pests of treated fabrics or yarns which contain wool or other susceptible fibers. The term "insect pests" shall be construed to include moths and carpet beetles.

## Test Specimens

2. (a) Fabrics—At least two test specimens, 25 mm. (1 in.) square, shall be cut from widely spaced portions of the fabric to be tested.

(b) Yarns—Test specimens shall be prepared by winding the yarn on a piece of cardboard 25 mm. (1 in.) square. The surface of the cardboard shall be substantially covered by the yarn. At least two specimens of each yarn shall be so prepared.

(c) Control Specimens—A specimen of pure undyed wool or camel's hair fabric, 25 mm. (1 in.) square, shall be exposed under the same conditions as the test specimens. A specimen of the untreated fabric or yarn similar to the treated test specimen may also be exposed if desired.

Note: It is hoped that standard fabrics suitable for control specimens will soon be made available for purchase from the Secretary of the American Association of Textile Chemists and Colorists, Lowell Textile Institute, Lowell, Mass.

## Larvae

3. (a) The larvae of the black carpet beetle (*Attagenus piceus* Oliv.) shall be used.

Note:—The larvae of the black carpet beetle are hardier and there-

fore better suited for test purposes than the larvae of the webbing clothes moth. Experience has shown that if a treated fabric resists attack by the larvae of the black carpet beetle, it will also resist the clothes moth.

(b) All larvae shall be active and shall range in weight from 4 to 8 mg.

(c) Ten larvae shall be used for each test specimen. These larvae shall preferably include some which are near the 4 mg. limit, some of medium size, and some near the 8 mg. limit.

## Procedure

4. (a) Each test specimen shall be shaken as described in paragraph 5 (c) to remove any loosely adhering dirt or dust, and placed in a suitable open top container, such as a petri dish or a widemouth pint glass jar. The larvae shall then be placed on the surface of the fabric or yarn and the top of the container shall be covered with a suitable screen or cloth which will keep out dust but not exclude air.

(b) The containers holding the test specimens shall be placed in an incubator and maintained at a temperature of 80°-5° F. for a period of 30 days. Light shall be excluded during the test and the relative humidity of the atmosphere shall not be less than 30 per cent nor greater than 70 per cent.

## Examination

5. (a) The extent of the damage to the specimens of fabric or yarn shall be determined by visual examination, quantity of excrement deposited, and the number of larvae remaining alive.

(b) In the visual examination, the following evidences of damage shall be looked for:

- (1) holes in the specimens, and
- (2) breaking and shearing of fibers.

Note: In the case of carpets where size is present on the back, the examination and reporting of damage shall be confined to the pile.

(c) The quantity of excrement deposited, shall be determined by freeing it from all loose fibers, cast skins or exuviae, and larvae and weighing. This may be accomplished by removing the test fabric from the container, holding it with the exposed side facing downward over a piece of glazed paper, grasping it on opposite sides and pulling back and forth between the hands until all loose material, excrement, and larvae are transferred to the paper. In the case of pile fabrics and yarns, it is advisable to tap the back of the specimen to free it from all adhering excrement. Any loose

residue in the container after the removal of the specimen should also be transferred to the glazed paper. The material collected on the paper shall then be transferred to a No. 3 Gooch crucible, and by repeated tapping of the crucible, the excrement shall be sifted through the perforations into a suitable dish, and finally weighed on an analytical balance.

## Report

6. (a) The evidences of damage, the number of larvae remaining alive, and the weight of the excrement in milligrams shall be reported for each specimen of the treated sample and for the untreated control specimens.

(b) In the absence of visual damage, the specimen shall be considered satisfactorily resistant to moths and carpet beetles if a quantity of excrement not over 6 mg. is deposited by the larvae, provided that under the same conditions a quantity of more than 15 mg. or excrement is deposited on the control specimens. It shall be understood that this statement applies only to the mothproofness of the specimen under the conditions of the test.

Note:—Attention is now being given to the development of procedures for determining the retention of resistance to moths by treated fabrics or yarns under conditions of ordinary use.

## Livestock Sprays

(From Page 115)

value from their spray for cows in the pasture. There is a unanimous demand for livestock sprays more efficient in lasting repellent action.

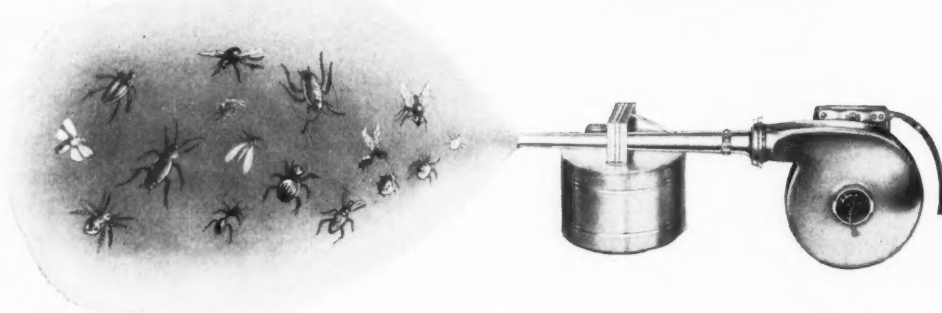
Practically all the farmers feel that using a livestock spray keeps their milk production to a normal level which otherwise would not be maintained because of insect annoyance. Farmers have little idea of what is in their spray or how it functions in killing and repelling insects. They mostly prefer a particular brand because they have tried several out and have found one that they feel is superior. Manufacturers should realize their product is "tested" every day during the fly season. Few farmers make their own sprays. The result is not successful and has a tendency to induce the farmer to return to the use of commercial brands.

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**Model 6A (1/3 H.P.)**

For use in factories, warehouses, dairy barns, large restaurants, and many other places where large areas must be sprayed rapidly, we now present three powerful blower-type sprayers, which will project a fine spray of excellent volume, for distances up to 40 feet or more. The great volume of air projected with the spray, carries the mist to high ceilings, and to the far corners of the room, so that thorough spraying is accomplished with the maximum speed. Yet the machines are light and easy to handle.

Specifications include 1 gallon metal container; genuine GE Universal Motors, mounted on Norma Precision Ball

**Model 8A (3/5 H.P.)**

Bearings, which require no oiling; 20 feet of rubber-covered cord. Simple and trouble-free; yet highly efficient.

The BREUER Model 6A will shoot a spray instantly for a distance of 20 feet or more; the Model 8A for 30 feet or more; and the 10A for 40 feet or more. Approved by Underwriters' Laboratories.

**Model 10A (1 H.P.)**

### MOTHPROOFING

The great force behind the spray makes these machines ideal for mothproofing purposes. The liquid is driven through the back of the fabric, insuring the saturation so essential to a satisfactory mothproofing job.

## STILL FURTHER IMPROVED!

**Models 53 and 54**

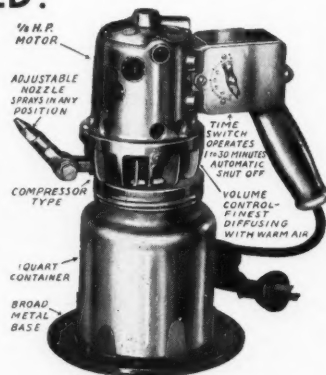


**Model 53**

One-quart capacity compressor-type sprayer for manual operation, toggle switch, 1/8 H.P. motor, adjustable nozzle, air volume control. Patented warming action insures maximum diffusion and penetration.

The two most popular models in the TORNADO line have again been improved,—this time by the use of even huskier motors, stepping up performance about 30%. That means a still heavier spray, with better atomization. More than ever before, these one-quart sprayers are the outstanding value in their class.

See the latest Breuer Models at the December Meeting N.A.I.D.M., December 2 and 3, Hotel Roosevelt, New York (G. W. Breuer) or write today for further details.



**Model 54**

One-quart capacity compressor-type sprayer for automatic or manual operation. Thirty minute time switch; adjustable nozzle, air volume control to regulate density or spray. Patented warming action insures maximum diffusion and penetration.

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We do not sell insecticides. Our business is manufacturing sprayers.  
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CHICAGO, ILLINOIS



# Analysis of Water-Emulsion Floor Wax

*By Melvin Fuld and H. Clark Brumbaugh*

*Fuld Brothers*

**T**AKE 100 grams of the sample. (It is desirable to work with 10-15 grams of solids. If the sample is a concentrate, 50-75 grams instead of 100 grams are used.)

Dilute with 100 ml. distilled water. Add a few drops of 1 per cent methyl orange solution and titrate to end point with  $n/2$  HCl. Filter and wash the residue with 3-20 ml. portions of

distilled water. Press dry with a spatula and carefully transfer the residue (R1) to a beaker. Evaporate the filtrate (F1) to dryness on a water bath.

Add 200 ml. of warm anhydrous methanol to the residue (R1). Stir well. Set aside for an hour and filter. Wash with 3-20 ml. portions of methanol. Press the residue (R2) dry with a spatula and transfer it to a beaker. Evaporate filtrate (F2) on the water bath.

Add 100 ml. petroleum ether to the residue (R2) and stir well. Filter and wash with 3-20 ml. portions of the ether. Press the residue (R3) dry with the spatula. Evaporate the filtrate (F3) on the water bath. Add 200 ml. of boiling toluol to the residue (R3) and filter hot. The residue consists of inert materials, dirt and oxidized resin. Evaporate the filtrate (F4) on the water bath.

Treat the solids (F1) with 100 ml. cold anhydrous methanol. Filter and wash with several 20 ml. portions of methanol. Evaporate the filtrate (F6). Add 20 ml. of 10% KOH solution and 3 grams of Benzenesulfonyl chloride, shake and filter. If a precipitate results it is the sulfonamide of secondary amines (diethanolamine, morpholine, etc.). Filter and acidify filtrate with HCl. A precipitate is the sulfonamide of a primary amine (monoethanolamine, etc.). Filter. The filtrate contains the hydrochloride of tertiary amines (triethanolamine, etc.) together with inorganic salts.

Treat the dried material from (F2) with 100 ml. petroleum ether and

filter, and wash well with several 20 ml. portions of the ether. (If lumps of solid are present use a Soxhlet extractor. The residue consists of shellac or other alcohol-soluble resins. Evaporate the filtrate (F5) on the water bath. The non-volatile matter is fatty acid. Weigh and examine.

Examine the evaporated (F3) residue for glyceride oils, paraffin and petroleum soluble resins.

The solids from (F4) are wax (carnauba, candelilla, etc.) Determine melting point, etc.

The solids from (F5) are ammonium chloride and borax.

As an alternate method we suggest the use of a Buchner\* funnel which will expedite the method. Take 100 grams of the sample (It is generally desirable to work with 10-15

\* Buchner Funnel suggested is 91 mm. inside diameter.

grams of solids. If the sample is a concentrate, 50-75 grams instead of 100 grams is used.) and dilute with 100 ml. distilled water. Add a few drops of 1 per cent methyl orange solution and titrate to end point with

$n/2$  HCl. Filter in a Buchner funnel and wash the residue several times with warm (not over 140° F.) distilled water. Change receivers and evaporate the Filtrate (F1) to dryness on a water bath.

Extract and wash with warm anhydrous methanol, change receivers and evaporate filtrate (F2) on the water bath. Extract and wash the residue with petroleum ether. Evaporate the filtrate (F3) on the water bath.

Extract the residue with boiling toluol. Evaporate the filtrate (F4) on the water bath. The residue consists of inert materials, dirt, and oxidized resin.

Extract and wash the solids from (F1) with 100 ml. anhydrous methanol. Filter and wash with several 20 ml. portions methanol. Evaporate the filtrate (F6). Add 20 ml. of 10% KOH solution and 3 grams Benzene-sulfonyl chloride to the residue. Shake and filter. A precipitate is the sulfonamide of secondary amines (diethanolamine, morpholine, etc.). Filter and acidify filtrate with HCl. A precipitate is the sulfonamide of a

primary amine (monoethanolamine, etc.). Filter. The filtrate contains the hydrochloride of tertiary amines (triethanolamine, etc.) together with inorganic salts.

Extract and wash dried material from (F2) with petroleum ether and filter. The residue consists of shellac or other alcohol soluble resins. Evaporate the filtrate on the water bath. The non-volatile material is fatty acid. Weigh and examine. Examine the



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DIRECTLY CONNECTED TO FACTORY STEAM OR AIR LINE.  
STEAM OR AIR PRESSURES FROM 30 UP TO 200 LBS. MAY BE SAFELY USED.

### STATIONARY MODEL A

2, 3, or 4 Nozzles



For dairies, cheese factories, and ice cream plants, we recommend the Model A of one-quart capacity. Install one unit for every 10,000 to 12,000 cubic feet of space, two for 25,000 cubic feet, and so on. Lists at \$7.50



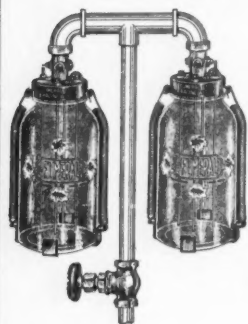
### STATIONARY MODEL B

2, 3, or 4 Nozzles

For larger space fumigation such as in flour mills, bottling plants, packing plants, breweries, confectioneries, woolen mills, warehouses, etc., we recommend the Model B, of half-gallon capacity. Install one unit for every 25,000 cubic feet, two for 50,000 cubic feet, and so on. Lists at \$8.50.

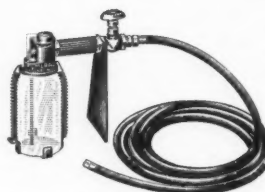
### STATIONARY MODEL TWIN B

2, 4, or 6 Nozzles



For permanent vault installations and such places which require large quantities of liquids to be diffused in a comparatively small space, we recommend the Model Twin B of one-gallon capacity. The pressure control valve may be located outside of the vault. Lists at \$17.00

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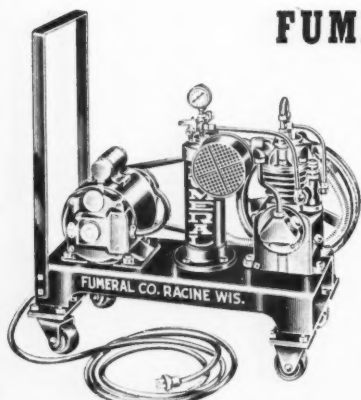


The portable Model 7 of half-gallon capacity is extensively used in addition to the stationary models for local treatment of machinery, mill legging, closets, for treating grain, carloadings, greenhouses,

schools, theatres, laundries, barracks, moving vans, railroad freight, passenger and dining cars, airplanes, merchant and passenger ships. Lists at \$12.50 not including the hose.

Pat. Sept., 1934—Aug., 1938

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For exterminating service and places where no steam or air is available, we furnish compact, sturdy Fumeral air compressors which deliver a large volume of air at high pressure.

Model PK is a twin-cylinder, air cooled, air compressor mounted on a steel frame having four noiseless, composition wheels, automatic unloader and safety valve, a moisture tank with drain valve, pressure gauge, a large air cleaner and shut-off valve.—Operated from the light or power line.

Capacity 6.5 cubic feet which will operate one portable Model No. 7 at 75 lbs. or two units at 45 lbs.—V belt driven  $\frac{3}{4}$  H.P., 110-220 volts AC, electric high torque motor, complete with twenty-five feet of heavy duty rubber cord and plug.—Net weight 187 lbs. Crated, 230 lbs. We also furnish DC motors and 2 H.P. gasoline driven units. Prices upon request.

## FUMERAL COMPANY RACINE, WIS.

Manufacturers of Fumeral Stationary and Portable Sprayers and Diffusers.

# Schematic Analysis System for Water Emulsion Floor Waxes.

100 grams Sample + 100 ml. Distilled Water + N/2 Hydrochloric Acid—Filter in Buchner Funnel.

Residue—Contains waxes, resins, oils, fatty acids. Change receivers and extract with warm anhydrous methanol.	Filtrate No. 2—Contains fatty acids, shellac, and other alcohol soluble resins. Evaporate extract with petroleum ether. Filter.		Filtrate No. 1—Contains water soluble materials. Evaporate—extract with cold anhydrous methanol. Filter and wash the residue.	
Residue—Contains waxes and petroleum soluble resins. Change receiver. Extract with cold petroleum ether.	Residue — Shellac and alcohol soluble orate contains fatty resins. Determine constants.		Residue—Contains amine hydrochlorides sulfonates and metallic chlorides. Add dilute KOH and benzenesulfonyl chloride.	
Residue—Contains wax, dirt, inerts, etc. Change receiver. Extract with boiling toluol.	Filtrate No. 3—Evaporate—Contains petroleum soluble resins, paraffins, ceresin, montan and glyceride oils.		Filtrate No. 6—Contains ammonium chloride and borax. Weigh—add KOH solution. Distill and titrate the ammonia.	
	Filtrate No. 4—Evaporate—Contains carnauba and candelilla waxes. Determine melting point, etc.		Residue consists of sulfonamides of primary amines (methanamine, etc.) and metallic salts.	
Residue—Contains dirt and inert materials.	Residue consists of secondary amines (diethanolamine, morpholine, etc.)		Residue consists of sulfonamides of primary amines (methanamine, etc.) and metallic salts.	

evaporated (F3) residue for glyceride oils, paraffin and petroleum soluble resins.

The solids from (F4) are wax (carnauba, candelilla, etc.). Determine melting point, etc.

The solids from (F5) are ammonium chloride and borax.

Inasmuch as the Buchner Funnel Technique is simpler and quick, we have made up a schematic only for that procedure. If the other technique is followed, filter paper and funnels are used and the schematic followed.

## Sources of Insecticides

Sources of plant insecticides in the British Empire have been studied. Analyses of derris from Tanganyika (9 samples), Sarawak (3), Seychelles (7), Mauritius (1), Trinidad (5), Dominica (3), and Fiji (2) showed water 4.5-10.6 per cent, total extract 3.3-22.6 per cent and purified rotenone 0.6-9.95 per cent.

The alcoholic extracts of 3 samples of leaves of *Tephrosia* from Uganda gave positive biological tests for insecticidal properties, 100 per cent of paralyzed insects being obtained at a concentration of 0.5 gram of leaf per 100 cc. A sample of roots from the Union of South Africa contained 1 per cent of ether extract and only a trace of rotenone.

Samples of pyrethrum from Tanganyika (15 samples), St. Helena (2), and Ceylon (2) contained water 7.0-10.7 per cent, pyrethrin I 0.05-0.64, pyrethrin II 0.05-0.80, and total pyrethrins 0.10-1.40 per cent. *Bull. Imp. Inst.* 38, 150-63 (1940); through *Chem. Abs.*

## Indian Derris

Thick and thin roots of *Derris elliptica* from Trichur, South India, contained 8.93 and 9.24 per cent of water respectively, 20.78 and 18.18 per cent of ether extract, and 9.95 and 6.33 per cent of rotenone, respectively, as received. C. S. Venketasubban. *Indian J. Pharm.* 1, 130; through *Chem. Abs.*

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## Labels Improving, Says Cox

Efforts by manufacturers to stretch the truth on their labels so that they can claim more than their competitors, are dying out, and there is a tendency toward improvement in labels for economic poisons, according to Dr. Alvin J. Cox, Chief, Bureau of Chemistry, California Department of Agriculture. Dr. Cox stated in a recent communication to *Soap & Sanitary Chemicals*:

"During the last several years there has been marked improvement in economic poisons labels in California. Even more commendatory is the improvement in the minds of manufacturers of such products to do the square thing and avoid even inferential misrepresentation. No small part in the accomplishment of these improvements is due to the cooperative policy of the editorial staffs of magazines such as "Soap," and to editorials such as the opening one on page 91 of your October, 1940, issue.

The effort to stretch the truth to claim more than a competitor is dying out and economic poisons are being more and more sold largely on the value for the purpose intended rather than on their negative characteristics. We wish to express to you our appreciation not only for your fairness of mind, but your willingness to cultivate this attitude in others."

## Rubber-floor Polish

A polish for rubber flooring is made in the form of a water-base emulsion from 87 parts of carnauba wax, 9 of oleic acid, 4.9 of triethanolamine, and 500 parts of water. If this gives a finish that is too slippery the following composition should be used:

	Parts
Carnauba wax	13.2
Oleic acid	1.5
Triethanolamine	2.2
Sheillac	2
Borax	1
Ammonium hydroxide, 28 per cent	0.32
Water	99

H. Barron. *Rubber Age* 19, 301-3, (1940).

## What About Our Market?

(From Page 103)

are neither revealing nor enlightening. I believe that accurate market data on present day production and consumption of insecticides and disinfectants would be very helpful to every manufacturer in the industry in planning how most efficiently to

operate his business. If the members of this Association want such market data, I believe that it can be obtained either by working with the U. S. Department of Commerce, the members of which have always been most cooperative, or through some outside agency. We have heard much in the last few years about the high costs of distribution. If the members of this Association want to do something about these high costs of distribution in their individual business, it would appear that the place to start is with a knowledge of how big a market we are talking about. We all have made guesses as to the size of the market but nobody knows.

This Association stands in the front rank of trade associations that have done and are doing outstanding scientific research and I want to compliment our scientific men for the fine constructive job that has been done. A similarly constructive job could be done in the field of distribution and the first step might be a study of the size and character of the market. A trade association only exists to do for its members what the members want done. Remember that it is your Association and individually and collectively. We will get out of this Association just what we are willing to put into it, and the officers and Board of Governors are your representatives and here to do your bidding. What is your bidding in the matter of insecticide and disinfectant marketing?

## Advances in Disinfectants

(From Page 109)

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# CRESYLIC ACID — FORMALDEHYDE

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2. 100% Volatile
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## PENNSYLVANIA REFINING CO.

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## Military Sanitation

(From Page 102)

are ineffective. Another repellent is made by merely mixing 1 part of Epsom salts with 10 parts of water.

**M**OST important of all insects from the military standpoint is the body louse. Because lice are parasites of man, and thrive in a military environment, especially under combat conditions, the louse-borne diseases are potentially the most dangerous to military forces. In addition, cold weather favors the breeding and spread of human lice while most other insects which carry disease breed only under tropical or semi-tropical conditions. The louse-borne diseases are trench fever, typhus fever and relapsing fever and may be called true military diseases in the sense that they are much more prevalent among troops than in civilian communities. These diseases, it is true, present no problem in the well-ordered barracks or permanent camp, but generally appear only in conditions of overcrowding where personal cleanliness is difficult, such as in the trenches of the World War. When, or if infestations of lice break out in encampments, temporary or otherwise, prompt action is taken by commanding officers. Delousing of a unit includes the following procedures: all individuals to bathe thoroughly and to shave various parts of the body if necessary; clothing and equipment to be deloused; latrines, beds, and other objects possibly harboring lice to be disinfested or destroyed; clean clothing to be issued to all individuals.

For delousing, Army officials suggest a soap made up as follows: boil one part of ordinary "G. I." soap in four parts of water, add two parts of kerosene and mix with four parts of water. If bathing with this soap does not remove lice completely, it is recommended that afflicted parts be either shaved or scrubbed with vinegar, kerosene or gasoline. Clothing is disinfested in steam pressure chambers, in hot air ovens, with hot water, by storing until the lice are starved

to death or by use of chemicals. Use of chemicals such as vinegar, kerosene, cresol, gasoline or naphthaline is not considered as efficient as the other methods for they do not always kill the eggs. Heat and steam seem to be the procedures preferred by the U. S. Army.

Army measures for exterminating other insects depend in some instances on calling in trained exterminators to fumigate buildings infested with bedbugs, fleas, etc. In less extreme cases, or where fumigation is impractical, insecticides are used. For bedbug control, an insecticide employed in the Army consists of kerosene containing 10 per cent of cresol or 5 per cent of turpentine. A kerosene or alcohol extract of pyrethrum is also effective, say Army authorities, these insecticides to be applied with a paint brush instead of as a spray. Steaming, dry cleaning, washing, hand picking, brushing and shaking of bedding and flaming the cracks of steel cots with a blowtorch is also recommended.

In the control of roaches and ants, use of sodium fluoride or spraying cracks and corners with "G. I." insecticide\* is advised. Pouring boiling water or kerosene into ant nests is said to be the only insurance for their complete eradication. Flea control is accomplished by elimination of animal hosts such as dogs, cats, rats and squirrels. Scrubbing rooms with soapy water containing 10 per cent kerosene and 5 per cent cresol and spraying barns and barnyards with cresote oil containing 10 per cent tar acids are routine procedures.

In speaking of rat control, the Army manuals say, "Poisoning is an effective rat control measure where there are a large number of rats but it will not kill all of the rats, as many will learn not to touch the bait. The remainder may be killed or trapped." Oven-dried red squill is mentioned as the best rat poison for baits. Other

\*The commercial, prepared insecticide for use by the U. S. Army must conform with Specification No. 4-1074. This stipulates that active ingredients may be combinations of any two of the following: pyrethrins, rotenone or aliphatic thiocyanates. The base shall conform to standards adopted by the National Association of Insecticide and Disinfectant Manufacturers.

poisons listed are barium carbonate, arsenious oxide, phosphorus, strychnine and thallium sulfate, the last four of which have the obvious disadvantage of being highly poisonous to all animals. Hydrocyanic acid and sulfur dioxide are mentioned as having little value in the field as rat fumigants because of the difficulty of using them. Gassing with carbon monoxide from the exhaust pipe of an automobile is advised where rat burrows are accessible. In damp weather and when the ground is damp, balls of cotton or waste soaked with carbon disulfide are sometimes plugged in burrows to kill rats.

The question of a good water supply is highly pertinent to troops in temporary encampments in the field. To eliminate the danger of contaminated water, all water from any source except a municipal reservoir known to be safe is chlorinated by using calcium hypochlorite. This chemical is issued to officers in ampules, each one holding approximately enough calcium hypochlorite to purify 36 gallons of water. The common water sterilizing bag (Lyster bag) made of canvas has a capacity of about 36 gallons. In a camp, one hangs on a tripod at the end of each tent "street." Of course the exact amounts of chlorine required vary with the characteristics of the water being treated, so water is tested with orthotolidine testing solution after the addition of the hypochlorite. One part per million of chlorine is considered satisfactory.

Although all the procedures discussed in the foregoing pages are recommended for Army use, it must not be supposed that they are all actually in use today. Certain of the alternative methods where more than one is given are probably employed to the virtual exclusion of the others. That this is true may be shown by the fact that the lists of published government purchases of materials seldom include certain of the products. However, it is beyond doubt that the U. S. Army will require more of these products and in much larger quantities from now on. This should open a new market for many manufacturers of sanitation materials.



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# News.....

## March G. Bennett Dies

March G. Bennett, treasurer and director of Samuel Cabot, Inc., disinfectants and insecticides, a former member of the old Boston Common Council and of the Massachusetts House of Representatives, died recently at the Phillips House. Mr. Bennett was active in the Boston Chamber of Commerce and served on important committees of the chamber for many years.

## Lehn & Fink Earnings Off

Lehn & Fink Products Corp., Bloomfield, N. J., reported net income of \$110,502 for the three months ended September 30, after provision for Federal income taxes and all other charges. This was equal to 27 cents each on 400,000 common shares. For the quarter ended September 30, 1939, net income was \$126,726, or 31 cents a share.

## Huntington at Meat Exposition

Huntington Laboratories, Inc., Huntington, Ind., occupied a booth at the Meat Packing Exposition held during the Institute of America Meat Packers convention in Chicago recently. On display was their line of roach powders, fly sprays, liquid soap, floor maintenance preparations and other supplies for the meat packing plant. Wray Norton, manager of the firm's Chicago district office, who was in charge, said it was the company's first appearance at this big trade show. It was also noted that they were the only representatives there of the sanitary chemical field.

## Explosion at Wall Chem. Plant

Explosion of a "moisture trap" attached to a container of oxygen at the plant of Wall Chemical Corp., Chicago, last month, injured two employees and caused a fire which, however, was soon under control. Fifty other employees near the scene of the explosion escaped in-

jury, although the force of the blast drove a chunk of metal through the building's roof.



John N. Curlett

## Curlett on A.G.M.A. Committee

John N. Curlett, vice-president of McCormick & Co., Baltimore, and first vice-president of the National Association of Insecticide and Disinfectant Manufacturers, was recently named to the program committee planning this year's annual convention of Associated Grocery Manufacturers of America.

## Roach Powder Kills Eleven

Sodium fluoride, accidentally baked into pancakes, killed eleven men and sickened fifty-two others who had eaten at the Salvation Army's Lawrenceville, Pa., center for transients and itinerant workers on Nov. 11. It was not determined how the poison got into the pancakes but according to Coroner P. J. Henney, the white powder must have been at the bottom of the flour can, possibly thrown there by mistake.

## Curare as an Insecticide

A report on a possible new insecticidal raw material has been made by Llewellyn Williams, specialist in economy botany, attached to the Field Museum of Natural History, Chicago, following his return

from an exploring trip in Venezuela. Mr. Williams told of watching jungle savages along the Orinoco river concocting poison for arrow heads. The base of this toxicant is curare, so deadly that on entering the blood stream it kills a bird in two minutes, a pig in five and a human being in 14. Studying the bark from which this curare comes, Mr. Williams reports that it can be used as the basis of an insecticide. He also asserted that it might be developed profitably in commercial quantities.

## New Arsenic Paste

A new type arsenic paste designed for rodent control and as a substitute for thallium has been announced by the Sennewald Drug Co., St. Louis. The new product, according to the manufacturer, has a high killing power against rodents and is free of many of the drawbacks of arsenic. The arsenic content is very finely divided, the particles being microscopic in size, the product is practically tasteless, and is more readily handled and mixed with baits than ordinary arsenic. The material is also miscible with liquids and may be used in this form.

## Revise Disinfectant Standards

Revised commercial standards for Coal Tar Disinfectant (Emulsifying Type), CS70-38, and Cresylic Disinfectants, CS71-38, were issued November 5 by the National Bureau of Standards, U. S. Department of Commerce, and submitted to producers, distributors and users for acceptance. The prime reason for rewriting the standards was to permit the use of phenolic distillates obtained from petroleum in the formulation of these disinfectants. Previous regulations had confined choice of raw materials to the coal tar group. Written acceptance of the new standards is requested by F. W. Reynolds of the Bureau so that a list of official acceptors of the revised standards may be included in the printed pamphlets.

The movement toward revision of disinfectant standards started

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just a year ago at the December, 1939 meeting of the National Association of Insecticide & Disinfectant Manufacturers in Washington, with the presentation by M. L. Griffin of Shell Development Co. of a paper, "Manufacture and Properties of Cresylic Acids from Petroleum" and a second study of the subject by Dr. E. G. Klarmann of Lehn & Fink, Inc., "Alkyl-Phenolic Disinfectants from Petroleum Sources and the Commercial Standards." Subsequently at the June, 1940, meeting at Lake Wawasee, Ind., proposed revisions in the standards were presented by Dr. Klarmann, and the specifications as revised were accepted by the association and ordered sent to the Bureau of Standards for the customary canvass of the industry before final acceptance and issuance.

#### R. A. McCormick Dies

Roberdeau A. McCormick, 84, retired vice-president of McCormick & Co., spices, insecticides, teas, Baltimore, died suddenly at his home on November 18 after a short illness. A graduate of Washington and Lee University, he became associated with his brother, Willoughby M. McCormick, in 1891, in a flavoring extract business. He was instrumental in bringing the insecticide department into the business and was recognized throughout the industry as an authority on insecticides. He remained with McCormick & Co. until 1934 when he retired from the business. Among his many civic activities, Mr. McCormick was a director of the Baltimore Association of Commerce and a director of the United States Chamber of Commerce. In 1915, he served as chairman of the Maryland commission at the Panama Pacific-Golden Gate Exposition at San Francisco. He is survived by a sister and a son.

#### Tu-Way Products Moves

Tu-Way Products Company, Detroit, manufacturers of mops, have recently moved their offices and factory to 1423 E. Franklin St. The building, which is of brick construction and contains 35,000 sq. ft. of space, was bought by the company

#### Rotenone for Citrus Scale

A bulletin (No. EP-15) has recently been issued by the Bureau of Chemistry of the California Department of Agriculture, outlining the status of rotenone added in any of its several forms to petroleum oil sprays, for use in controlling citrus scale insects. The bulletin reviews the findings at a recent conference held in Los Angeles, presided over by Dr. Alvin J. Cox, chief of the bureau, and attended by some forty representatives of insecticide firms.

Following the conference the bureau announced that powdered rotenone bearing roots are acceptable for control of black and citricola scales when used at the rate of from one to three pounds per one hundred gallons of spray, depending on the percentage of rotenone and other ether extractives present, plus 1/2% to 1 1/2% light medium or medium petroleum spray oil. The use of rotenone powders with reduced oil concentration is not recognized as effective for control of red, yellow and purple scales on citrus, although when they are added to the recog-

sized minimum 1 2/3% dosage, improved control of these scales may be claimed.

six months ago and enables them to have their office and factory under one roof. Formerly the general offices and factory were in different buildings. Modernization of production facilities at the new location will permit greater production.

#### Charge Polish Misrepresented

Misrepresentation in sale of a floor polish was charged last month against David Melnick who conducts a paint shop at 736 Lydig Ave., Bronx, N. Y., on the testimony of Kathleen Powers, an investigator for the Bureau of Markets, Weights and Measures, City of New York. It is charged that Melnick sold Miss Powers a quart of polish which was not the brand she had requested, although the container bore that name.

#### Enterprise Sanitary Co. Moves

Enterprise Sanitary Chemical Co., formerly located at 523 N. Eutaw St., Baltimore, has removed to 417 W. Camden St., same city.

nized minimum 1 2/3% dosage, improved control of these scales may be claimed.

Rotenone and its accompanying ether extractives, imposed upon an inert carrier such as walnut shell flour, for use with petroleum oil, is also acceptable. Such preparations may be recommended only for the control of citrus scale insects in the same manner as outlined above for ground rotenone bearing root and oil.

A third group of products which the bureau will accept for registration comprises total ether extractives of rotenone bearing roots dissolved in solvents which are themselves soluble in petroleum oil. It is essential, says the bureau, that the ether extractives enter a true solution in the petroleum oil.—the more nearly complete this solution, the more effective the final spray. It is the manufacturer's responsibility to be certain that even when the specified minimum of spray oil and rotenone are maintained, that solvents or other components are neither of such a kind nor added in such a way as to impair effectiveness of the mixture.

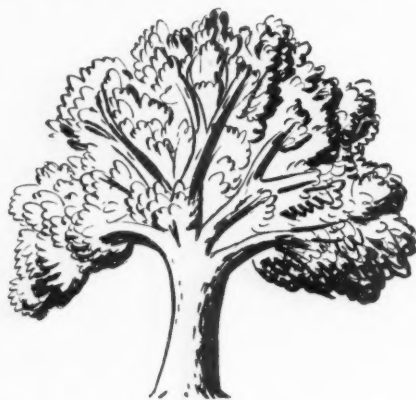
#### Fire at Reilly Tar

A fire which resulted in losses of upwards of \$25,000 destroyed two of the seven buildings of Reilly Tar & Chemical Co. plant, Newark, N. J., and damaged another building on November 5. Officials of the company stated that stock in warehouses and supplies from other plants would allow shipments to be made without interruption. The fire broke out in the naphthalene flaking room of one building and quickly spread to the other buildings. It was brought under control after about two hours.

#### Conn. P.C. Assn. Elects

James Van Sloat of the Greenwich Exterminating Co., Greenwich, Conn., was elected president of the Connecticut Pest Control Association at the annual meeting held at New Haven, Conn., November 19. Fred Haas of Aetna Exterminating Co., Hartford, was named vice-president and Oscar Anderson of Berg Extermi-

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nating Co., Hartford, secretary-treasurer. The retiring president, F. E. Bohman of Birchard System, Inc., and Walker Heap of Abbot Pest Control Co. will serve on the program and entertainment committee for the coming year. At the November meeting Neely Turner of the Connecticut Agricultural Experiment Station conducted a discussion of common household pests, the talk being illustrated by slides.

### Trace Purex Corp. History

A brief summary of sixteen years of operation of the Purex Corp., Ltd., Los Angeles, since the company first began the manufacture of laundry bleach sixteen years ago is included in the current issue of *The Phoenix Flame*, house magazine of Phoenix Metal Cap Co., Chicago. It was in 1924 that Ray A. Precourt, son of L. S. Precourt, now treasurer and general manager of the corporation, began experimental work in his garage on the problem of developing a more stable laundry bleach than was then available. It was almost a year later, in January, 1925, that the first bottle of the new bleach was delivered to the first customer.

Since that time the company has made a series of moves, always to larger quarters, and now has its main plant in South Gate, adjoining Los Angeles, with another factory in St. Louis. The products of the two factories are marketed in the eleven western states, throughout the middle-west, and as far east as Kentucky, Tennessee, Georgia and Florida. The expanded line now includes, in addition to "Purex" laundry bleach, a toilet bowl cleaner, marketed as "Purex Bowl Clean," and a drain opener, sold as "Purex Drain Opener."

### L & F to Compensate Draftees

Lehn & Fink Products Corp., Bloomfield, N. J., has announced that the company will pay employees drafted into military service the difference between army pay and the salaries they have been receiving in their normal work.

### 5th PCO Conference at Purdue

The 5th Annual Purdue Pest Control Operators Conference will be held at Purdue University, Lafayette,



Dr. J. J. Davis

Ind., January 6-10. The first day will include the usual fundamentals for those who are attending for the first time or those who wish to review the fundamental principles of insect life and insect control. For the others, plans are being made for inspection of termite and industrial plant jobs, and special problems including mites and ticks and pests of lawns. Similarly on another day of the conference those who are present for the first time will have a laboratory session on fundamentals of insect identification, while others will receive a more complete analysis of common household pests, including life cycles.

Other topics to be given consideration during the five-day conference include: "Diversified Equipment and Appliances for Maximum Efficiency in Pest Control"; "Preparation of Mounts, Making Exhibits, Displays, and Rearing Live Material"; "Termites and Other Insects Attacking Wood"; "Chemistry of Insecticides Used by the Pest Control Operator"; "The Use of Chemicals in Pest Control Work"; "Rats and Mice"; and a "General Household Insect Clinic."

The complete personnel of those participating in the Conference is not yet available but will include many state and federal ento-

mologists, biologists and chemists as well as commercial pest control operators and will deal with both technical aspects of pest control problems and practical applications. The complete program will be mimeographed and sent to members of the industry in the Central West and East about December 1 by the National Pest Control Association. For further details address J. J. Davis, Purdue University, who will again have general charge of the conference this year.

### Western Chem. Moves

Western Chemical Co., St. Joseph, Mo., recently moved to a new location at Eighth & Charles St. and acquired several thousand dollars worth of new equipment for the manufacture of its line of liquid soaps, disinfectants, insecticides and floor finishes, according to E. F. Garvey, vice-president. The three-story building is of recent construction, is built of coral-colored, mat-faced brick trimmed in natural stone, and measures 50 x 150 feet. The company is continuing to use its warehouse on S. Fourth St. as well as the storage tanks there. All five Garvey brothers who organized the company in 1920 are active in the business today.

### ROACH POWDER ERROR

Sodium fluoride as a roach powder does not deteriorate on keeping. On Page 97 of the November issue of *SOAP & SANITARY CHEMICALS* in the table listing the characteristics of various roach powder combinations, sodium fluoride was listed as a product which deteriorates. At the same time, a mixture of derris, pyrethrum, and inert dust was listed as non-deteriorating. These were both typographical errors. In the column on deterioration, the fluoride should have been listed as "no," and the pyrethrum-derris mixture as "yes."

—The Editors.

# THANKS ~



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## PCOs Adopt Broad Program

A NUMBER of important decisions were taken at the recent meeting of the National Pest Control Association at the Hotel Claypool, Indianapolis, which forecast an expansion in association activity over the coming year. Much emphasis is to be placed during 1941 on a study of existing literature on the industry's problems, preparatory to the publication of an association bulletin on "Household Pests." George R. Elliott heads the committee which will have charge of this work.

A decision was also taken for association representation at the next annual meeting of the American Public Health Association. The past presidents of the association were named as a committee to arrange for industry participation with a suitable display at the 1941 meeting.

The association devoted considerable attention to a review of proper fumigation practices and after discussion and revision adopted a report submitted by Bartlett W. Eldredge, chairman of the Fumigation Committee, recommending a set of standard practices to be followed in fumigation work to secure the safety of all concerned. These standard practices will be thoroughly publicized throughout the industry.

The subject of municipal rat campaigns was also debated at length, and the association directed considerable attention to the recent Chicago campaign. A resolution was adopted condemning the use of public funds in competition with private enterprise and criticizing the use of inexperienced and unskilled labor in extermination projects. The association went on record as being unwilling to hold future conventions in any city which is conducting such a campaign, or has done so within the past year.

As reported last month San Francisco was selected as the 1941 convention city. Charles J. Menard

has subsequently been named as local chairman. The 1942 convention will be held in Pittsburgh.

New officers of the association were named in the brief convention report in our November issue, the list being headed by the new president of the association, L. D. Alderman of the Alderman Co., Pasadena. Regional vice-presidents include three new members of the official family, Ernest R. Barber, Robert E. Hackley and Louis Kotler, in addition to Charles W. Houghton, Lawrence A. McKenna and Max J. Levy, all re-elected. William O. Buettner continues as secretary, with Albert M. Akers taking over as treasurer.

### Eastern PCO's Confer Jan. 13-15

The first Eastern Pest Control Operators' Conference will be held at Massachusetts State College at Amherst, Mass., Jan. 13, 14 and 15, completing the geographical round-up of four such sectional conferences around the country. Registration will be limited to the first 75 operators who send applications, with payment of \$5, to George R. Elliott, 58 Front St., Worcester, Mass. Prof. Charles P. Alexander of Massachusetts State College will act as Dean of the Conference, assisted by Prof. A. I. Bourne and other members of the faculty as well as a group of guest speakers. Groups cooperating in preparations for the conference include the National Pest Control Association, New England Pest Control Association, Connecticut Pest Control Association and the New York Pest Control Association.

The program will include a termite symposium the afternoon of January 13, and a session on rat and mice control the afternoon of January 15. A program on insecticides and their application will feature the morning program on January 15. On January 14 the group will be split into two sections, each group dividing its time equally between laboratory

work and lectures. A banquet will be held the evening of January 14, with Prof. J. J. Davis of Purdue University as toastmaster and F. J. Sievers, director of the Massachusetts Agricultural Experiment Station, as the speaker.

### Chicago Rat Campaign Results

Chicago's municipal rat exterminating campaign brought death to 628,000 rats in October, according to a city hall estimate. Figures, which might be criticized as optimistic, were based on number of poison baits which, on rechecking, had disappeared from rat holes and other locations where relief workers had placed them. Rats found dead above ground totaled only 12,543, however, during the month. Casualty records for the month of November are not yet available.

### Nourse Oil Head Dies

Jack Nourse, president and founder of the Nourse Oil Co., Kansas City, Mo., died on November 24, at that city, after a long illness which grew out of an automobile accident two years ago. The company manufactures insecticides and petroleum products.

### James H. McGuire Dies

James H. McGuire, co-founder of Baird & McGuire, Inc., Holbrook, Mass., and later associated with James Huggins & Son, Malden, Mass., died November 26 at his home in East Milton, Mass. He was sixty-three years old and had been in poor health for several years. Mr. McGuire resigned his position as treasurer of Baird & McGuire in 1929 and became associated with Tar Products Corp., Providence, R. I., in charge of manufacture of disinfectants. He subsequently joined James Huggins & Son in their disinfectant division. Surviving are his wife, Mrs. Ella H. McGuire; a son, J. W. McGuire, and two daughters.

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*Make this test*

POUR WATER ON IT—MOP IT  
7 MINUTES AFTER DRYING

**THE FINISH WILL REMAIN**

**DRIES TO A HIGH GLOSS  
BUFFS TO A NON-SKID FINISH**

COVERED BY PUBLIC LIABILITY INSURANCE POLICY  
ENDORSED BY INSURANCE COMPANIES

*Send 85c in stamps or check for a postpaid Full Gallon Sample*

**TWI-LAQ CHEMICAL COMPANY**

25-29 NORTH PORTLAND AVE.

TRiangle 5-2125

BROOKLYN, N. Y.



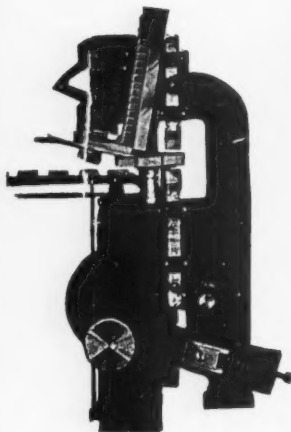


.....as members of the National Pest Control Association met at the Hotel Claypool, Indianapolis, last month, for their 1940 Convention.

*Photos Courtesy Charles Opitz*



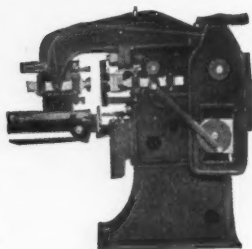
*Special Offerings of* **SOAP MACHINERY** *Completely Rebuilt!*



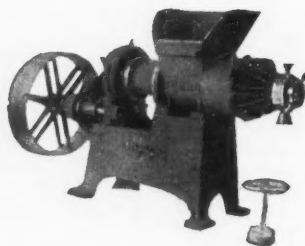
Small size fully automatic Jones toilet soap press. Capacity 150 to 200 small cakes per minute. A real buy at an attractively low price. Has been completely rebuilt in our own shops.



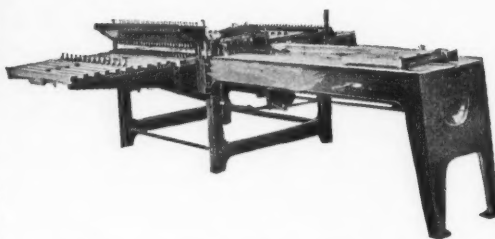
**H-A SOAP MILL**  
This 4-roll granite toilet soap mill is in A-1 shape. Latest and largest size rolls.



**4 JONES AUTOMATIC**  
combination laundry and toilet soap presses. All complete and in perfect condition.



Single screw soap plodders with 6, 8, 10 or 12 inch screws. All completely rebuilt and unconditionally guaranteed.



2 Automatic Power Soap Cutting Tables.

**INVESTIGATE  
THESE SPECIAL  
BARGAINS**

•  
**Johnson Automatic Soap  
Chip Filling, Weighing  
and Sealing Machines  
for 2 lb. and 5 lb. Pack-  
ages guaranteed in per-  
fect condition.**  
•

**ADDITIONAL REBUILT SOAP MACHINERY**

*All used equipment rebuilt in our own shops and guaranteed first class condition.*

- |  |  |
|--|--|
| H-A. 1500, 3000, 4000, 5000 lbs. capacity. Steam Jacketed Crutchers.         | Sperry Cast Iron Square Filter Presses, 10, 12, 18, 24, 30 and 36 inch.    |
| Dopp Steam Jacketed Crutchers, 1000, 1200, 1500 lbs. and 800 gals. capacity. | Perrin 18 inch Filter Press with Jacketed Plates.                          |
| Ralston Automatic Soap Presses.  | Gedge-Gray Mixers, 25 to 6000 lbs. capacity, with and without Sifter Tops. |
| Scouring Soap Presses.   | Day Grinding and Sifting Machinery.  |
| Empire State, Dopp & Crosby Foot Presses.                                    | Schultz-O'Neill Mills.   |
| 2, 3, 4, 5 and 6 roll Granite Toilet Soap Mills.                             | Day Pony Mixers.   |
| H-A 4 and 5 roll Steel Mills.  | Gardiner Sifter and Mixer.   |
| H-A Automatic and Hand-Power slabbers.                                       | Proctor & Schwartz large roll Soap Chip Dryers complete.                   |
| Proctor & Schwartz Bar Soap Dryers.  | Doll Steam Jacketed Soap Crutchers, 1000, 1200 and 1350 lbs. capacity.     |
| Blanchard No. 10-A and No. 14 Soap Powder Mills.                             | Day Talcum Powder Mixers.  |
| J. H. Day Jaw Soap Crusher.  | All types and sizes—Tanks and Kettles.                                     |
| H-A 6, 8 and 10 inch Single Screw Plodders.                                  | Ralston and H-A Automatic Cutting Tables.                                  |
| Allbright-Nell 10 inch Plodders.   | Soap Dies for Foot and Automatic Presses.                                  |
| Filling and Weighing Machine for Flakes, Powders, etc.                       | Broughton Soap Powder Mixers.  |
| Steel Soap frames, all sizes.  | Williams Crutcher and Pulverizer.  |
| Steam Jacketed Soap Remelters.   | National Filling and Weighing Machines.                                    |
| Automatic Soap Wrapping Machines.  |  |
| Glycerin Evaporators, Pumps.   |  |

*Send us a list of your surplus equipment—  
we buy separate units or complete plants.*

**NEWMAN TALLOW & SOAP MACHINERY COMPANY**

1051 WEST 35th STREET, CHICAGO

Phone Yards 3665-3666

***Our Forty Years Soap Experience Can Help Solve Your Problems***

## Classified Advertising

**Classified Advertising**—All classified advertisements will be charged for at the rate of ten cents per word, \$2.00 minimum, except those of individuals seeking employment where the rate is five cents per word, \$1.00 minimum. Address all replies to Classified Advertisements with Box Number, care of *Soap*, 254 West 31st St., New York.

### Positions Wanted

**Entomologist**—Man with several years practical experience with insecticide manufacturers and wide knowledge of household insecticides, stock sprays, etc. desires new connection in insecticide industry either in sales, plant or promotional work. For further details, communicate with Box No. 934, care *Soap*.

**Superintendent**—Man of experience in soapmaking and chemistry desires permanent position with reliable firm. All kinds of soap, powders, and cleansers—and recovery of glycerine. Address Box No. 935, care *Soap*.

**Entomologist, M.A.**, five years experience with Experiment Station and insecticide firm desires new connection in industry. Experienced in laboratory and field testing of insecticides and fungicides. Address Box No. 924, care *Soap*.

**Soap Production Man**—Fifteen years experience with two large soap manufacturers, specializing in packaging line. Knows machinery and soap production from A to Z. Open for new connection. For details, write to Box No. 933, care *Soap*.

**Chemist**, registered, American, 40, well experienced; manufacturing and testing full line pharmaceuticals, cosmetics, wants position; eventually establishing new plant. Excellent references. Address Box No. 936, care *Soap*.

**Man**—fifteen years experience manufacturing disinfectants, liquid soaps, coconut oil soap bases, oil soaps, shampoos, metal polish, wax, floor soaps, etc. Own formulas. Excellent references. Will go anywhere. Married. Address Box No. 919, care *Soap*.

**Former Production Manager—Chemist**: Having 15 years' experience manufacture toilet soaps, shave, dental preparations, cosmetics with leading soap manufacturer desires new connection preferably small company. Fully conversant factory operation, development new products, glycerine recovery and administration. Address Box No. 925, care *Soap*.

## 3 NEW — Outstanding SCIENTIFICALLY TESTED— WATERPROOF • SELF-POLISHING FLOOR WAXES

Now available for the  
**JANITOR SUPPLY and  
JOBING TRADE.**

Made right—for profitable  
business—can be had in  
bulk or in containers—  
under your own private brand

Let us prove our statements regarding  
these three "best seller" grades. Write  
for free samples or for demonstration.

**Empire Chemical Products Co.**  
12 LONGWORTH STREET NEWARK, N. J.

#### WE ALSO MANUFACTURE

Liquid Floor Soaps  
Rug Shampoo

Metal Polish  
Disinfectants

Gym-Finish  
Paste Wax

## NO TIME FOR DELAYS!

Save Time and Money with Consolidated  
used Machinery, already built, ready to  
be mustered into service . . .

#### SELECTED SPECIALS

- 2—Pneumatic Scale Carton Packaging Units.
- 1—Sargent 54" x 72" single Chilling Roll.
- 2—Proctor & Schwartz Soap Chip Dryers, steel frame; 1 with single cooling roll.
- 1—Houchin Para Block Press, with 1½" x 3" dia.
- 2—Jones Vertical Automatic Soap Presses.
- 1—Jones Horizontal Automatic Soap Press.
- 3—Houchin Plodders, 10", 8".
- 2—Automatic Soap Wrapping Machines.

Crutchers  
Soap Kettles  
Powder Mixers  
Granite Mills  
Plodders  
Slabbers

Foot and Automatic  
Soap Presses  
Cutting Tables  
Pulverizers  
Soap Pumps  
Soap Chippers

Filter Presses  
Soap Frames  
Powder Fillers  
Labellers  
Tanks  
Boilers

Send for New Illustrated Circular

**CONSOLIDATED PRODUCTS CO., INC.**  
15-21 PARK ROW NEW YORK, N. Y.  
BArcley 7-0600 Cable Address: Equipment  
We buy your idle Machinery—Send us a list.



## "Good" Products at "Good" Prices

*Manufactured by us under careful laboratory control.*

### DISINFECTANTS

Pine Oil  
Coal Tar (Coef. 2 to 20)  
Cresol Comp. U.S.P.  
Cresylic

### POTASH SOAPS

Liquid Soaps (up to 40%)  
Soap Bases  
Vegetable Oil Soaps  
(Paste and Liquid)  
Pine Scrub Soaps  
(Liquid and Jelly)  
Sassafrassy Scrub Soap  
Soft Soap, U.S.P.  
Auto Soap  
Saddle Soap

### SPECIALTIES

Self Polishing Wax  
(Up to 20% solids)  
Buffing Floor Waxes  
(Liquid and Paste)  
Liquid Metal Polish  
Liquid Furniture Polish  
Insecticide Sprays  
Weed Killer (Liquid)  
Fire Extinguishing Liquid  
Soda and Acid Recharges  
Drip Machine Fluid  
Toilet Bowl Cleaner  
Drain Pipe Cleaner  
Roach Powder  
Wax Base Cleaner  
Coal Tar Animal Dip  
Powdered Rosin



### JAMES GOOD, Inc.

*Manufacturing Chemists—Since 1868*

2112 E. Susquehanna Avenue  
Philadelphia, Pa.

## Do You Need Special ROTENONE and DERRIS RESINS?

No matter what your requirements may be the chances are we can supply a suitable product. DERRIS, Inc., raw materials are used in all types of finished insecticides—household, horticultural and agricultural. Investigate the advantages of using these specialties in your sprays and powders.

**Derris Powder — Cube Powder  
of Finest Grind**

## DERRIS, Inc.

79 WALL STREET

NEW YORK, N. Y.

We announce development of new type soap colors

## PYLAKLORS

They have good fastness to alkali, light, tin, ageing.

The following shades are already available:

Bright Green	Dark Brown
Olive Green	Palm Green
Yellow	Golden Brown
True Blue	Violet

*It will pay you to send  
for testing samples.*

### PYLAM PRODUCTS CO., INC.

*Manufacturing Chemists, Importers, Exporters*

799 Greenwich St.

New York City

*Cable Address: "Pylamco"*

*We introduce*  
A NEW CONCEPTION OF . . .

## P A R A

PURE, UNADULTERATED  
PARADICHLORBENZENE

MADE IN 8 STANDARD SIZES:

FINES  
GRADED FINES  
MEDIUM NO. 1  
MEDIUM NO. 2  
COARSE  
1/4" CRYSTAL  
1/2" NUGGETS  
ROCK

UNUSUALLY PROMPT DELIVERIES IN  
METROPOLITAN NEW YORK AREA

WRITE FOR SAMPLES AND QUOTATIONS

## Rid-O-Moth Corporation

JACOBUS AVENUE

SOUTH KEARNY, N. J.

TELEPHONE: MITCHELL 2-1703-4



**Soap Maker—Perfumer**, 26 years experience in manufacturing and perfuming of laundry, toilet, floating, textile soaps, etc. Improve plants, processes. Bleaching of fats, etc. Desires position. Address Box No. 937, care *Soap*.

**Chemist and Superintendent**, wishes to connect with firm where his extensive experience with laundry and industrial soaps can be used to good advantage. Can make money for the right employers. Address Box No. 921, care *Soap*.

**Man with twenty years** practical experience as soapmaker and chemist on potash soaps, shampoos, waxes, polishes and disinfectants, wishes to make new connection. Can take full charge of laboratory, production and as master mechanic on plant equipment. Address Box No. 923, care *Soap*.

### Positions Open

**Chemist or Chemical Plant Operator** with full knowledge of the manufacture and testing of metallic soaps. Good opportunity in an established concern for the right man. Give full particulars as to age, training, and previous connections. Address Box No. 930, care *Soap*.

**Man wanted**, middle aged, with experience of making soap of all kinds, able to take full charge of the entire production in small factory on the Pacific Coast. Chance for advancement to right kind of man. State past experience, age, salary expected, single or married. References in the first letter. Address Box No. 932, care *Soap*.

### Miscellaneous

**We want to dispose** of our spent lye either selling it or having it evaporated. Glycerine content 13-15% of 80% crude. Caustic soda 12-14 Be. Stahl Bros., 701 Seneca St., Buffalo, N. Y.

**For Sale:** Proctor & Schwartz 5 roll flaker, 66 inch. Cheap! Address Box No. 922, care *Soap*.

**Wanted**—For medium size plant—Soapmaker, to take charge of production, cold process only. No amateurs wanted. Excellent opportunity, reply in confidence, details of experience. Address Box No. 928, care *Soap*.

**For Sale:** Soap company selling fully equipped New York City soap plant. Will sacrifice at dealer prices. Address Box No. 931, care *Soap*.

**Will Purchase Immediately**—Pneumatic Packaging Machine, used for chips, powder, cleanser; also dry mixers, chip dryers, crutchers, and automatic soap press. Address Box No. 927, care *Soap*.

### LIQUIDATION

*from the Former*

**GEORGE E. MARSH PLANT, BOSTON, MASS.**

- 1—Garrigue Glycerine Evaporator, capacity 100000 lbs. of lye per month (on 40 hour week)
- 150—Soap Frames, 1200 lbs.
- 4000—Soap Drying Racks
- 2—1200 lb. Crutchers
- 2—Proctor and Schwartz Soap Chip Dryers
- 2—Jacketed Kettles, 6' x 6'
- 1—Jacketed Kettle, 8'6" x 6'
- 7—Boiling Tanks, 2500 to 7500 gals.

**PRICED FOR QUICK SALE. MUST BE REMOVED IMMEDIATELY.**

### — SPECIALS —

- 1—Jones Automatic Soap Press
- 6—H. A. Perfection Crutchers, 1200 lbs.
- 1—DAY JUMBO Horizontal Mixer, jacketed, 680 gals.
- 3—Day Jacketed Mixers or Crutchers, 500 gal.
- 3—Day and Dopp Mixers or Crutchers, 50 to 150 gals.
- 1—Package Machinery Co. Soap Wrapper
- 1—SHRIVER 30" x 30" STEAM JACKETED Plate and Frame Filter Press
- 10—Day, Gedge Gray Powder Mixers, 100 to 1500 lbs.
- 15—Shriver, Sperry Filter Press, 12" to 36" square
- 5—Blanchard, Jaybee, Williams Soap Powder Mills
- 1—Sharples Centrifuge, No. 6
- 1—GARRIGUE GLYCERINE EVAPORATOR, with 2 Salt Boxes, capacity approximately 3000 lbs. of 6% lye per hour
- 3—Rotex, Sturtevant, Tyler Screens
- 25—Pumps

*Only a Partial Listing. Send for Latest Bulletin SFO*

**BRILL EQUIPMENT CORPORATION**  
183 VARICK STREET, N. Y. C.

*"From a single item to a complete plant"*

### PYRETHRUM FLOWERS

*by C. B. Gnadinger*

- Recent developments in pyrethrum testing methods.
- Use of pyrethrum in live stock sprays and horticultural dusts and sprays.
- Control of pyrethrum decomposition by use of antioxidants.
- Data on production and new sources.
- Three hundred references to the literature.

**\$5.00 per copy**

*Send Check With Order*

**MACNAIR-DORLAND CO.**  
254 West 31st St. New York City

## A New Departure In Crutcher Performance

The HUBER ELECTRO PERFECTION CRUTCHER is now available in a new model,—with four forward and reverse speeds. The flexibility in operating technique afforded by this wider choice of crutcher speeds should be decidedly interesting to many soap makers. Available in three sizes,—1,500, 2400 and 3200 pounds.



## HUBER MACHINE CO.

"Builders of Good Soap Machinery for the Past 45 Years"  
265 46th STREET BROOKLYN, N. Y.

## FOUGERE SAVON SUPREME

A FINE PERFUME OIL FOR SOAPS  
AND ALL SOAP PRODUCTS

## FOUGERE SAVON SUPREME



*We shall be pleased to  
forward a sample  
and full information*

## COMPAGNIE PARENTO, Inc.

Croton-on-Hudson

New York

## TAR ACID OIL *for use in* DISINFECTANTS

Makes White Emulsions.  
Unusually High in Tar Acids

MANUFACTURED FROM  
LOW TEMPERATURE COAL TAR

## PITTSBURGH COAL CARBONIZATION CO.

H. W. Oliver Building

Pittsburgh, Pa.

Producers and Refiners of Coal Tar and Its Products.

## JOBBERS... a reliable source of supply for...

- SWEEPING COMPOUNDS
- SOAP POWDERS
- "INDIANHEAD" DETERGENT POWDER
- LIQUID HAND SOAPS
- CONCENTRATED JELLY SOAPS
- SCRUB SOAPS
- PINE OIL DISINFECTANTS
- COAL TAR DISINFECTANTS
- OILS AND POLISHES

*We Welcome Inquiries for Prices and Samples*

MANUFACTURED BY

## SANITARY FLOOR COMPOUND CO.

(Manufacturer of Sanitary Products Since 1921)

104-108 Railroad Ave.

Paterson, N. J.

**Attention!** Will Mr. Kahn—soap salesman—communicate with Box No. 929, care *Soap*.

**Floor Brushes**—We manufacture a very complete line. Catalogue sent upon request. Flour City Brush Company, Minneapolis, Minn., or Pacific Coast Brush Co., Los Angeles, Calif.

**Rebuilt Guaranteed Machinery:** Crutchers; Plodders; Jones Automatic Soap Press; Foot Presses; Proctor Soap Dryer; 9x24, 12x30, & 16x40 Three Roll Water Cooled Steel Mills; 4 Roll Stone Mill; Johnson Carton Sealers; Powder Fillers; 6 Knife Chipper; Mixers; Grinders; Boiling Kettles; Cutting Tables; Soap Frames; Filters & Filter Presses, etc. Send for Soap Bulletin No. 402. Stein Equipment Corp., 426 Broome St., New York City.

**For Sale:** In fast-growing Florida's busiest city, small well-established wholesale insecticide manufacturing business. Be independent. Other interests require owner's full time. Address Box No. 926, care *Soap*.

**Wants Agency:** Austrian expert would like to get the sole agency of an American manufactory of soaps and cleansing articles in Detroit, Mich. Best references. Address Box No. 907, care *Soap*.

**FINEST . . for**  
**Every Purpose**



**Victoria**  
**TOILET TISSUES**



Craftsmen in the art of fine paper-making for 60 years.

Distributed by Reliable Paper Merchants everywhere.

Made by  
**VICTORIA PAPER MILLS COMPANY**  
Founded 1880.



**FULTON, NEW YORK**

## Valencia Pumice

Reg. U.S. Pat. Off.

The First and Only Pumice Originating in

## AMERICA

Which satisfactorily supplants imported Pumice. Graded to your Specifications.

*Write for samples and 12 page booklet of information*

**BARNSDALL TRIPOLI CORPORATION**  
**PUMICE DIVISION**

(Subsidiary Barnsdall Oil Co.).

SENECA, MISSOURI, U. S. A.

## SALES BUILDERS

in these LIQUID FLOOR SOAPS

High-grade, dependable cleaners  
for economy floor care—

### PEXPINE LIQUID SCRUBBING SOAP

(Plain, Pine or Sassafras.) Made from a combination of pure vegetable oils, expressly for floors demanding a fine-quality, neutral soap. Its active soap content and non-alkaline nature assures a safe, effective cleaner. Leaves no soap film to cloud the surface.

### PECK'S No. 100 SCRUB SOAP

(Plain, Pine or Sassafras.) A heavy-bodied moderately alkaline liquid floor soap from pure vegetable oils. Used on composition, mastic, and cement floors. Dependable and economical in work—cuts grease and removes dirt solids.



THE MARK OF PREMIUM QUALITY SOAPS

**Peck's**

5224-40 NORTH 2nd ST., ST. LOUIS, MO.  
NEW YORK . . . . . KANSAS CITY

PRODUCTS COMPANY

*Manufacturers for Jobbers Exclusively*

# HUDSON SPRAYERS



## WE'LL BE SEEING YOU —

at the December convention of the National Association of Insecticide and Disinfectant Manufacturers at the Hotel Roosevelt, New York City. For next year, we have many new features to show you in Hudson sprayers—features that mean better application of your product, that insure the utmost killing power. Why not take this opportunity to learn about them—and to discuss your problems with our representatives?

**H. D. HUDSON MANUFACTURING COMPANY**  
589 E. ILLINOIS ST.  
CHICAGO, ILL.

157 CHAMBERS ST.  
NEW YORK CITY



## F. & S.

Quality Colors  
*for*  
TOILET SOAPS  
LIQUID SOAPS  
TOILET PREPARATIONS

Long experience enables us to produce colors for all types of soaps.

If you have a shade you want matched send us a sample. We have complete facilities for matching.

Liquid soap colors a specialty—send for samples of F. & S. greens and ambers.

**FEZANDIE & SPERRLE, Inc.**  
205 FULTON STREET  
NEW YORK, N. Y.  
*Import—Manufacture—Export*

## CRESYLIC ACID

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## HIGH BOILING TAR ACIDS

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## TAR ACID CREOSOTE OIL

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## NAPHTHALENE

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**MIRVALE CHEMICAL CO., Ltd.**  
MIRFIELD YORKS, ENG.

for **QUALITY—UNIFORMITY—GOOD SERVICE**  
use

## Buckingham PRODUCTS

Bulk and Private Label  
(We Furnish and Imprint Labels)

**BUCKINGHAM WAX CORPORATION**  
Van Dam St. and Borden Ave. Long Island City, N. Y.

SELF POLISHING WAX  
WATERPROOF

LIQUID WAX

POLISHING TYPE

PASTE WAX

DANCE WAX

WAX CLEANER

FURNITURE POLISH

FLOOR SEAL

MOPPING VARNISH

BOWLING ALLEY POLISH

RUG SHAMPOO  
CONCENTRATE



# Raw Materials and Equipment

NOTE: This is a classified list of the companies which advertise regularly in SOAP. It will aid you in locating advertisements of raw materials, bulk and private brand products, equipment, packaging materials, etc., in which you are particularly interested. Refer to the Index of Advertisements, page 149, for page numbers. "Say you saw it in SOAP."

## ALKALIES

American Cyanamid & Chemical Corp.  
John A. Chew, Inc.  
Columbia Alkali Div., Pittsburgh Plate Glass Co.  
Diamond Alkali Co.  
Dow Chemical Co.  
Eastern Industries  
Hooker Electrochemical Co.  
Innis, Speiden & Co.  
Niagara Alkali Co.  
Solvay Sales Corp.  
Jos. Turner & Co.  
Warner Chemical Co.  
Welch, Holme & Clark Co.

## BULK AND PRIVATE BRAND PRODUCTS

Ampion Corporation (Soaps and Sanitary Chemicals)  
Associated Chemists, Inc. (Insecticides)  
Baird & McGuire, Inc. (Disinfectants)  
Buckingham Wax Corp. (Wax Products)  
Candy & Co. (Wax Products)  
Chemical Mfg. & Dist. Co. (Soaps and Sanitary Chemicals)  
Chemical Supply Co. (Disinfectants, etc.)  
Clifton Chemical Co. (Soaps and Sanitary Chemicals)  
Davies-Young Soap Co. (Soaps and Floor Wax)  
Empire Chemical Products Co. (Wax Products)  
Federal Varnish Co. (Wax Products)  
Fuld Bros. (Soaps and Sanitary Chemicals)  
James Good, Inc. (Sanitary Chemicals)  
Hysan Products Co. (Sanitary Chemicals)  
Koppers Co. (Disinfectants)  
Kranich Soap Co. (Potash Soaps)  
Pecks Products Co. (Soaps and Sanitary Chemicals)  
Philadelphia Quartz Co. (Detergents)  
Reilly Tar & Chem. Co. (Floor Seals)  
Rid-O-Moth Co. (Moth Preventives)  
Sanitary Floor Compound Co. (Soaps and Sanitary Chemicals)  
Geo. A. Schmidt & Co. (Soaps)  
Superior Soap Corp. (Soaps)  
Sweeping Compound Mfrs. Co. (Sweeping Compound)  
Twin City Shellac Co. (Wax Products)  
Twi-Laq Chemical Co. (Wax Products)  
Uncle Sam Chemical Co. (Sanitary Chemicals)  
T. F. Washburn Co. (Wax Products)  
White Tar Co. (Disinfectants, etc.)  
Windsor Wax Co. (Wax Products)

## CHEMICALS

American-British Chemical Supplies  
American Cyanamid & Chemical Corp.  
Chemical Mfg. & Dist. Co.  
John A. Chew, Inc.  
Columbia Alkali Div., Pittsburgh Plate Glass Co.  
Diamond Alkali Co.  
Dow Chemical Co.  
E. I. du Pont de Nemours & Co.  
Eastern Industries  
General Chemical Co.  
Hooker Electrochemical Co.  
Industrial Chemical Sales Div.  
Innis, Speiden & Co.  
Monsanto Chemical Co.  
Niagara Alkali Co.  
Philadelphia Quartz Co.  
Rohm & Haas Co.  
Reilly Tar & Chemical Corp.

Solvay Sales Corp.  
Standard Silicate Co.  
Jos. Turner & Co.  
Victor Chemical Works  
Warner Chemical Co.  
Welch, Holme & Clark Co.

## COAL TAR RAW MATERIALS

(Cresylic Acid, Tar Acid Oil, etc.)  
American-British Chemical Supplies  
American Cyanamid & Chemical Corp.  
Baird & McGuire, Inc.  
Barrett Co.  
Innis, Speiden & Co.  
Koppers Co.  
Mirvale Chemical Co.  
Monsanto Chemical Co.  
Pittsburgh Coal Carbonization Co.  
Reilly Tar & Chemical Co.  
White Tar Co.

## COLORS

Fezandie & Sperrle  
Interstate Color Co.  
Pylam Products Co.  
Tamms Silica Co.

## CONTAINERS AND CLOSURES

American Can Co. (Tin and Fibre Cans, Steel Pails)  
Anchor-Hocking Glass Corp. (Closures and Bottles)  
Henry Barroll & Co. (Closures)  
Continental Can Co. (Tin Cans)  
Crown Can Co. (Tin Cans and Steel Pails)  
National Can Co. (Tin Cans)  
Owens-Illinois Glass Co. (Bottles and Closures)  
Williams Sealing Corp. (Closures)

## DEODORIZING BLOCK HOLDERS

Clifton Chemical Co.  
Fuld Bros.  
Garnet Chem. Corp.  
Hysan Products Co.

## INSECTICIDES, SYNTHETIC

American Cyanamid & Chemical Corp.  
Associated Chemists, Inc.  
Dodge & Olcott Co.  
John Powell & Co.  
Rohm & Haas Co.  
U. S. Industrial Chem. Co.  
Whitmire Research Corp.

## MACHINERY

Anthony J. Fries (Soap Dies)  
Houchin Machinery Co. (Soap Machinery)  
Huber Machine Co. (Soap Machinery)  
R. A. Jones & Co. (Automatic Soap Presses and Cartoning Machinery)  
Karl Kiefer Machine Co. (Filling Machinery)  
Koppers Company (Coal Tar Plants, Power Plants, Valves, Castings, Pipe, Tanks)  
J. M. Lehmann Co. (Soap Machinery)  
Mixing Equipment Co. (Tanks, Mixers)  
Proctor & Schwartz (Dryers)  
C. G. Sargent's Sons Corp. (Dryers)  
Sprout, Waldron & Co. (Mixing, Conveying, etc.)  
Stokes & Smith Co. (Packaging Machy.)



Feature the new 4-in-1\* Applicator in connection with your self-polishing wax, varnishes, seals, etc.

It will make your customers and prospects more satisfied with your own products.

Don't be satisfied with anything less than the newest and best.

The 4-in-1 Applicator is the cheapest in the long run.

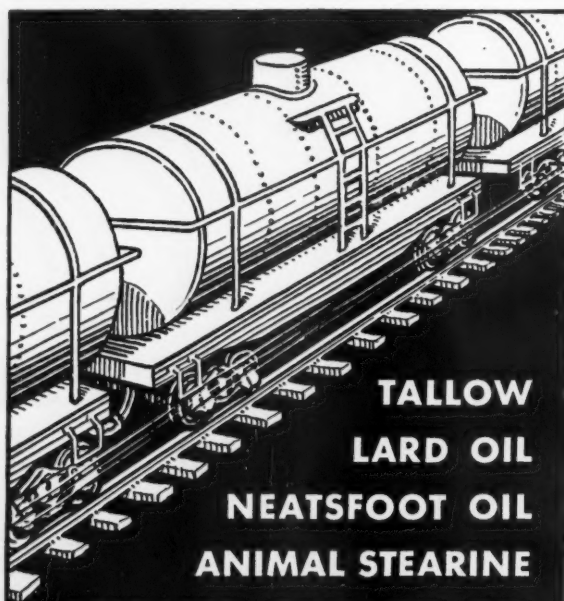
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Two or three salesmen experienced in calling on commercial growers of vegetables, fruits and flowers and also in calling on trade supplying such growers. Able men having good records selling insecticides or fertilizers especially desired. Chemical or entomological training or education important. We want good men for permanent travelling sales jobs on fast-growing insecticides which our research staff has originated and which have become thoroughly established commercially. Write full details of experience, education, references, desired salary, and snap-shot if available.

McLaughlin Gormley King Company

Minneapolis, Minnesota

# Raw Material and Equipment Guide

NOTE: This is a classified list of the companies which advertise regularly in SOAP. It will aid you in locating advertisements of raw materials, bulk and private brand products, equipment, packaging materials, etc., in which you are particularly interested. Refer to the Index of Advertisements, page 149, for page numbers. "Say you saw it in SOAP."

## MACHINERY, USED

Consolidated Products Co.  
Brill Equipment Corp.  
Newman Tallow & Soap Machinery Co.

## MISCELLANEOUS

American Standard Mfg. Co. (Wax Applicator and Mops)  
Anchor-Hocking Glass Corp. (Metal Caps)  
Barnsdall Tripoli Co. (Pumice and Tripoli)  
Crosby Naval Stores, Inc. (Pine Oil and Rosin)  
Dow Chemical Co. (Germicides, Agricultural Insecticides, Fumigants)  
Filtrol Corp. (Purifying and Decolorizing Clay)  
Industrial Chemical Sales Div. (Decol. carbon, Chalk)  
Innis, Speiden & Co. (Fumigants)  
Koppers Company (Coal, Coke, Roofing Materials)  
Newport Industries, Inc. (Pine Oil and Rosin)  
Pennsylvania Refining Co. (White Oils)  
Pylam Products Co. (Lathering Agent)  
Reilly Tar & Chem. Co. (Preservatives)  
Steryl Prods. Corp. (Toilet Deodorizer)  
Victoria Paper Mills Co. (Toilet Tissues)

## OILS, FATS, AND FATTY ACIDS

Eastern Industries  
Emery Industries, Inc.  
Independent Manufacturing Co.  
Industrial Chemical Sales Div.  
Newman Tallow & Soap Machinery Co.  
Orbis Products Corp. (Stearic Acid)  
Weoline Products Co.  
Welch, Holme & Clark Co.

## PARADICHLORBENZENE

John A. Chew, Inc.  
Dow Chemical Co.  
E. I. du Pont de Nemours & Co.  
Hooker Electrochemical Co.  
Monsanto Chemical Co.  
Niagara Alkali Co.  
Solvay Sales Corp.  
Jos. Turner & Co.

## PERFUMING MATERIALS

American-British Chemical Supplies  
Aromatic Products, Inc.  
Compagnie Parento  
Dodge & Olcott Co.  
Dow Chemical Co.  
P. R. Dreyer Inc.  
E. I. Du Pont de Nemours & Co.  
Felton Chemical Corp.  
Firmenich & Co.  
Fritzsche Brothers, Inc.  
General Drug Co.  
Givaudan-Delawanna, Inc.  
Magnus, Mabee & Reynard, Inc.  
Monsanto Chemical Co.  
Norda Essential Oil & Chemical Co.  
Orbis Products Corp.  
Rifa—New York, Inc.  
Ungerer & Co.

Van Ameringen-Haebler, Inc.  
Albert Verley, Inc.

## PETROLEUM PRODUCTS

Deodorized Insecticide Base, White Oils, Petrolatum, Paraffine Oils, Residues, etc.)

Atlantic Refining Co.  
General Petroleum Corp.  
Pennsylvania Refining Co.  
Shell Oil Co.  
L. Sonneborn Sons, Inc.

## PHOSPHATES

Trisodium, Sodium Pyrophosphate, etc.)

American Cyanamid & Chemical Corp.  
John A. Chew, Inc.  
E. I. du Pont de Nemours & Co.  
General Chemical Co.  
Monsanto Chemical Works  
Victor Chemical Works  
Warner Chemical Co.

## PYRETHRUM AND ROTENONE PRODUCTS

Insect Flowers and Powder, Pyrethrum Extract, Derris Products)

Associated Chemists, Inc.  
Derris, Inc.  
Dodge & Olcott Co.  
S. B. Penick & Co.  
R. J. Prentiss & Co.  
McCormick & Co.  
McLaughlin, Gormley, King Co.  
John Powell & Co.

## SILICATES

E. I. du Pont de Nemours & Co.  
General Chemical Co.  
Philadelphia Quartz Co.  
Standard Silicate Co.

## SOAP DISPENSERS

Ampion Corp.  
Bobrick Mfg. Co.  
Chemical Mfg. & Dist. Co. (Dishwashing Comps.)  
Clifton Chemical Co.  
Fuld Bros.  
Presto Mfg. Co.

## SPRAYERS

Breuer Electric Mfg. Co. (Electric)  
Fumeral Co. (Pressure Sprayers, Steam, Air, CO<sub>2</sub> gas)  
H. D. Hudson Mfg. Co.

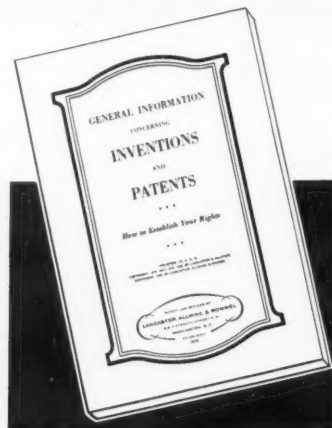
## WAXES AND GUMS

Carnauba, Shellac, Candelilla, etc.)

American Cyanamid & Chem. Corp.  
T. G. Cooper & Co.  
Innis, Speiden & Co.  
The Mac Lac Co. (Shellac)  
Mantrose Corp. (Shellac)  
Twin City Shellac Co. (Shellac)

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## Send for a copy — it's free

Interesting booklet concerning Inventions, Patents, Trade-Marks and Copyrights, together with Schedule of Government and Attorney's fees, sent free on request. Simply ask for "booklet and fee schedule." No charges are made for preliminary advice, either in connection with patent, trade-mark or copyright cases.

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WASHINGTON, D. C.

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**C**omplete revision of text, addition of many new chapters, revised and new formulas all rigidly tested.

The first complete and authoritative text on production procedure for all cosmetics, makes an invaluable new addition to this second edition.

**\$6.00 PER COPY**

(PLEASE REMIT WITH ORDER)

**Mac NAIR-DORLAND COMPANY**

254 West 31st St., NEW YORK, N. Y.

## "The Chemistry and Toxicology of Insecticides"

by

HAROLD H. SHEPARD, Ph.D.

University of Minnesota

*Should be included in the Technical  
library of every insecticide manufacturer*

This first complete volume given over solely to the subject of insect toxicology. The following subjects are covered in detail: History of insecticides; The principles of insecticide toxicology; The poisonous materials such as arsenicals, fluorides, copper compounds, etc.; Contact insecticides and adjuvants; Plant insecticides such as derris, pyrethrum, nicotine and various synthetic materials; Insect fumigants, attractants, repellants; Testing of insecticides. A fine compilation of technical and commercial information. 8 x 11, 383 pp.

Per Copy—4.00. Send Check With Order

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254 West 31st Street

New York City



# Professional Directory

## SKINNER & SHERMAN, INC.

246 Stuart Street Boston, Mass.

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Disinfectants tested for Phenol Coefficient. Toxicity Index determined by chick embryo method of Salle. Antiseptics tested by agar cup plate and other standard methods.

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E. B. PUTT, Ph.C., B.Sc.

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*Analytical and Consulting Chemists*

Specialists in the Analysis of Organic Insecticides, Pyrethrum Flowers, Derris Root, Barbisco, or Cube Root—Their Concentrates and Finished Preparations

DRUGS — ESSENTIAL OILS — SOAP

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## Soaps • Waxes • Polishes Detergents • Disinfectants

*Analysis Research  
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strength of Insecticides

## by PEET GRADY METHOD

PYRETHRINS in PYRETHRUM FLOWERS

(by Gnadinger or Seil Method)

We raised and killed more than 1 million flies in the last 2 years

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*Every Form of Chemical Service*

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## ALAN PORTER LEE, Inc.

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*Design and Construction of Equipment and Plants  
for Producing and Processing Fats, Oils,  
Soaps and Related Products*

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Refer To Your 1940

## BLUE BOOK

for F.D.A. Method for Testing of Disinfectants and Antiseptics.

Official N.A.I.D.M. Method for Testing and Grading of Insecticides.

Free with a \$3.00 subscription to SOAP.

\$4.00 Foreign

## MAC NAIR-DORLAND CO.

*Publishers*

254 W. 31st Street

New York, N. Y.

## CONSULTANTS

offering their services to manufacturers of soaps and sanitary specialties should apprise the industry of their facilities through this professional card department. SOAP reaches 4,000 firms needing help of a professional nature.

## Official Test Insecticide...

**S**UPPLIES of 1940 Official Test Insecticide (O.T.I.) are available for immediate shipment to any laboratory, firm or individual from the office of the National Association of Insecticide & Disinfectant Manufacturers. The 1940 O.T.I. is required for current testing by the official Peet-Grady Method under the specifications for household insect spray of the National Bureau of Standards and the N.A.I.D.M. Further information may be obtained from the Association office.



*National Association of  
Insecticide & Disinfectant Manufacturers, Inc.*  
110 East 42nd Street New York

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CLARENCE WEIRICH...C. B. Dolge Co., Westport, Conn.

R. H. YOUNG.... Davies-Young Soap Co., Dayton, O.

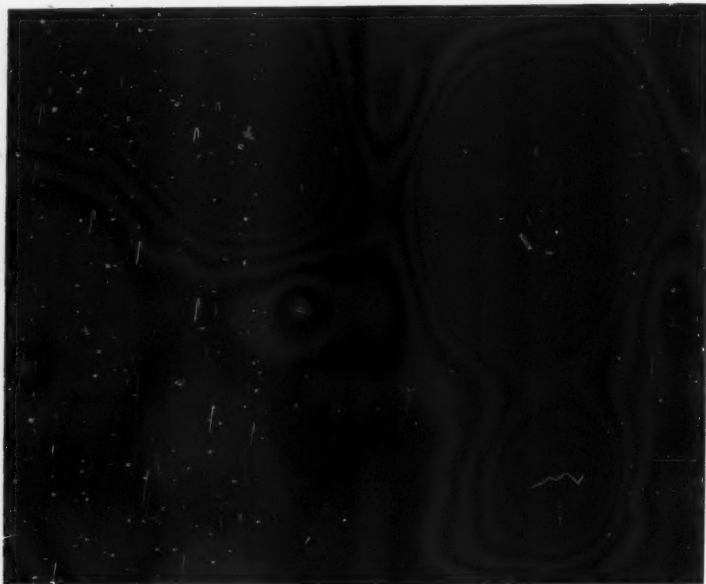
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## *A Wink in the Dark . . .*

**"D**OING business without advertising, says some one or other, is like winking at a girl in the dark. You know what you are doing, but nobody else does!"

And it is certainly right to the point . . .  
If you have something to sell to manufacturers and jobbers of soaps and sanitary chemicals don't keep it in the dark!

"Soap and Sanitary Chemicals" will "tell it to the world" for you . . . at low cost . . . an A.B.C. publication . . . **PROVED** circulation . . . let us tell you more about advertising rates, circulation, etc.

**SOAP** and Sanitary Chemicals  
254 WEST 31st STREET NEW YORK

*Member Audit Bureau of Circulations*

## Tale Ends

**T**WO dollars out of every three of the net earnings of a large chemical company went for taxes in 1940, according to its president. And we ain't seen nothin' yet. Wait until we really start to pay the fiddler in earnest!

\* \* \*

Recently, we asked a well-known authority why the sale of disinfectants generally had not expanded more than it has over the past decade. Odor, he stated,—odor of the average disinfectant is the greatest drawback to its wider use.

\* \* \*

To those who remark about the money which some soap companies appear to be making, we must point out again that the latest figures show soap prices to be lower and quality higher than ever. Improved manufacturing technique or low fat prices?

\* \* \*

The 1941 *Blue Book*, the only complete buying guide and catalog for the soap products, insecticide, disinfectant, sanitary supply and chemical specialty manufacturer and distributor, will be published shortly after the first of the year. Subscriptions to *Soap & Sanitary Chemicals* entered or renewed now will automatically insure a copy of the *Blue Book* to these subscribers when it is published.

\* \* \*

What is mothproofing and what is not? This problem is now being attacked on a genuinely scientific basis by a joint committee of textile chemists, insecticide chemists, and testing experts. Something tangible in the way of results appear to be assured.





Another Christmas and another opportunity to thank you for your  
generous patronage and endorsement of Ungerer products . . .  
and to sincerely wish that you will receive your full measure of  
the other good things in life.

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Philadelphia • Chicago • Boston • St. Louis • Los Angeles • San Francisco • Toronto



# TRAIL BLAZERS

EVERY industry has its "trail blazers." In the field of pyrethrum concentrates, McLaughlin Gormley King Co. has pioneered virtually every improvement made in the last 11 years.

In 1929, Pyrocide 20 was introduced as the *first standardized concentrate* for use in insecticides. There was nothing like it on the market at the time. Every standardized pyrethrum concentrate on the market is an *imitation!* Today, Pyrocide 20 is still the leader — always the best buy.

An easy test will prove, for example, that few pyrethrum concentrates can even come close to Pyrocide 20 when compared for clarity. You can determine this yourself by making the test described at the left.

Today there is no reason for using substitutes — because the price of Pyrocide 20 has been considerably reduced.

**McLAUGHLIN GORMLEY KING CO.**  
MINNEAPOLIS, MINNESOTA

## MAKE THIS EASY TEST YOURSELF

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3. Place the two cylinders above any convenient ordinary size type matter. Then look **THROUGH** the two solutions—looking down from the top—and see if you can read the type!

The result is amazing. Looking down through Pyrocide 20 the type shows up clear and sharp—easy to read! Few concentrates come close to Pyrocide 20 and the difference becomes more apparent after the solutions are left standing an hour or two or over night. Your insecticides made with Pyrocide 20 won't clog small apertures of sprayers—will not stain curtains or furniture when used by your customers!

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—sample— and new low prices.

# PYROCID

THE PUREST FORM OF PYRETHRINS COMMERCIALY AVAILABLE

# 20

